BPA Member, Business Publications Audit

Croplife®

SOUTH MARKETING EDITION — With Added Regional Circulation to the South Marketing Segment

TOTAL CIRCULATION OVER 9,000 COPIES EACH ISSUE

A BUSINESSPAPER FOR THE FARM CHEMICAL MANUFACTURER, FORMULATOR AND DEALER

Published by The Miller Publishing Co., Minneapolis, Minn.

Vol. 7 | Publication at Minneapolis, Minn. Accepted as Controlled Circulation | FEBRUARY 22, 1960 | Subscription Rates: $5 for 1 year, $9 for 2 years | No. 8

Smaller Carryover Of 1959 Pesticide Supplies Reported

Exceptions Are DDT and Some New Chlorinated Hydrocarbon Products

WASHINGTON—Carryover stocks of many leading pesticides on Sept. 30, 1959, were lower than on the same date in 1958, the U.S. Department of Agriculture has reported.

The report, based on an annual survey conducted in cooperation with the National Agricultural Chemicals Assn., indicates that benzene hexachloride, calcium arsenate, 2,4-D, 2,4,5-T, organic phosphorus insecticides as a group, and copper fungicides were from 27 to 53% down at the end of the 1959 growing season from the same time in 1958.

DDT was in somewhat larger supply, perhaps in anticipation of heavy exports scheduled for the world malaria eradication program. Stocks of grain and soil fumigants, lead arsenate, and most of the chlorinated hydrocarbon group (aldrin, etc.), also were larger than in 1958 as were stocks of many newly-developed fungicides, weed killers, and organic phosphorus insecticides. Carryover of these latter materials was sufficiently great that total stocks of pesticides (including prepared mixtures) were about the same as at the end of the previous year.

Although the proportion of particular pesticides carried over as prepared mixtures varied greatly, about 38% of total stocks in both years was in this form.

Inventory changes between Sep-

(Turn to SUPPLIES, page 17)

New President, Survey Reports Highlight Midwest Joint Meeting

By JAMES L. ENGFER
Croplife Staff

CHICAGO—The announcement of the election of a new National Plant Food Institute president, some important research findings and a startling report on an Iowa survey, were among the highlights of the 12th annual joint meeting of midwestern college agronomists with the fertilizer industry at the Edgewater Beach Hotel here, Feb. 11-12.

The meeting, sponsored by NPFI's Midwest regional office, was attended by 658 agronomists, industry personnel and representatives of allied industries, which was the largest registration in the meeting's history.

Paul T. Truitt, formerly executive vice president of NPFI, was elected president by the group's board of directors at a session on Feb. 10. He succeeds J. D. Stewart, Jr., who was elected to a newly-created position of vice chairman of the board of directors. The board also eliminated the two executive vice president positions, held by Mr. Truitt and Dr. Russell Coleman, the latter resigned to become president of the Sulphur Institute, a completely new organization. (Complete details on the NPFI executive changes can be found elsewhere in this issue of Croplife.)

★ ★ ★

Reports on various soil fertility programs, demonstrations and research projects held the attention of those in attendance at the two-day program. Following the opening remarks by George E. Smith, chairman of the Middlewest Agronomists, a report on the soil fertility program in Guernsey County, Ohio, was presented.

Dr. Harold Shoemaker, department of agronomy, Ohio State University, and Oscar Share, Guernsey County agent, told of the results of an intensified soil fertility program that could add $1 million to the farm income of the county.

"More than 665 soil samples were

(Turn to JOINT MEETING, page 20)

'Expect to Continue NPFI Program; Need Strong Support,' Says New Head

CHICAGO — "We expect to continue the program the National Plant Food Institute has had in the past. We feel this program has accomplished a great deal in the past, and, if possible, we would like to improve on the program in the future," said Paul T. Truitt, following his election to the presidency of the NPFI. The announcement was made at the 12th Annual Joint Meeting of the Midwestern College Agronomists with the fertilizer industry.

Mr. Truitt, who has served as one of the executive vice presidents of NPFI since July of 1955, emphasized the need for strong membership support and the cooperation of the staff and the college personnel. "We need everyone's help, suggestions, ideas and even their criticism," he said.

Mr. Truitt's election came on the heels of the announcement by Dr. Russell Coleman, also an NPFI executive vice president, of his resignation. Dr. Coleman will assume duties as president of a newly-formed international research organization known as the Sulphur Institute.

A letter to the NPFI membership from Richard E. Bennett, chairman

Paul T. Truitt

Dr. Russell Coleman

of the board, and J. D. Stewart, Jr., vice chairman, explained the move as follows:

"Russell Coleman submitted his resignation as executive vice president in order to accept the presidency of the Sulphur Institute. Your board of directors at its meeting in Chicago yesterday (Feb. 10) accepted his resignation reluctantly only after it became clear that this was a definite decision that Dr. Coleman made after much thought.

"We are sure that you will be pleased to know that the board elected Paul Truitt president of the Institute. The board also created the additional policy office of vice chairman of the board to assume continuity in the policies of the Institute. J. D. Stewart, Jr., was elected to this post.

"Your board expressed appreciation to the staff for the progress that has been made in the expanded program to date and stated its views that the Institute with Mr. Truitt as its chief executive officer,

(Turn to NEW HEAD, page 17)

Two Southern Firms Sign Agreement for Ammonia Purchases

NEW YORK—Tennessee Corporation and Southern Nitrogen Co. announced on Feb. 15 the signing of an agreement under which Southern Nitrogen will purchase for a period of years 30% of the annual ammonia production of the multi-million dollar plant which U.S. Phosphoric Products Division, Tennessee Corporation will build and operate at its East Tampa, Florida, works. Southern Nitrogen will use the ammonia for the processing of nitrogen fertilizer products at a new $2,000,000 plant it is now building at Tampa, Florida.

B. W. Bellinger, executive vice president of Tennessee Corporation, stated that his company will process much of the ammonia into a nitrogen phosphate material "DiMoN," in a new plant at East Tampa, completed last year.

John R. Riley, president of Southern Nitrogen Co., also announced that, in addition to the agreement with Tennessee Corporation, his company will begin a multi-million dollar expansion of its Savannah, Georgia, plant in the near future.

Southern Nitrogen manufactures ammonia, nitric acid and ammonium nitrate solution principally for conversion into fertilizer products at plants in Savannah, Georgia, and Tampa, Florida. Initial production started in 1957 at Savannah.

Fertilizer Production Likely to Be Heavy First Half of 1960, Commerce Report Says

WASHINGTON — Production in the fertilizer industry will have to be maintained at a high level if the expected demand for 1960 is to be met, according to a report just issued by the business and defense services administration of the U.S. Department of Commerce. Reasons for this prediction are outlined by the department as including a somewhat better than usual demand for plant food last fall, and producers' inventories were low. This resulted in relatively little slowdown during the summer of 1959.

"Production of the various fertilizer materials in the first nine months of 1959 compared with that of the corresponding period shows ample evidence of heavy activity," the report states. Percentage increases were as follows:

Anhydrous Ammonia	16%
Nitrogen Solutions	32%
Ammonium Nitrate	15%
Urea	19%
Normal Superphosphate	13%
Concentrated Superphosphate	5%
Wet Phosphoric Acid	5%
Coke-Oven Ammonium Sulfate	3%

The report adds that inventories of most of these materials were reduced during 1959, so that actual use was even greater than production figures would indicate.

Following are production figures on some agricultural chemicals during the period of January-September, 1959 as compared to the same period of 1958:

Commodity	Jan.-Sept. 1959 tons	Jan.-Sept. 1958 tons
Anhydrous Ammonia	3,317,556	2,846,952
Ammoniating Solutions	616,958	468,385
Ammonium Nitrate	2,091,195	1,822,295
Phosphoric Acid	1,391,024	1,294,990
Potash	1,855,404	1,730,089
Sulfuric Acid	12,103,155	11,520,279
Superphosphate (and other phosphatic fertilizers)	1,961,521	1,784,870
Urea	452,891	381,469
DDT	58,108	52,521

Inside You'll Find

What's New	10
Farm Service	14
Oscar and Pat	14
Editorials	22
Meeting Memos	23
Advertisers' Index	23
Classified Ads	23

Named Director of Mid-South Firm

MEMPHIS, TENN.—D. H. Bradford, Jr., vice president and sales manager of Mid-South Chemical Corp., has been elected a director of the corporation, Ellis T. Woolfolk, Tunica, Miss., president, has announced. Mr. Bradford succeeds F. M. Simpson who became president of Cities Service Oil Co. recently.

D. H. Bradford

Mr. Bradford has been sales manager of Mid-South Chemical Corp. since it was organized 12 years ago. He is a chemical engineering graduate of Mississippi State University and for two years before World War II was in the chemical engineering research department of Pure Oil Co. in Chicago. During the war he was a major in the air force and became director of maintenance and supply for the Eastern Flying Training Command. Mr. Bradford recently completed a special course of advanced management training at the University of Pittsburgh's Graduate School of Business Administration.

In addition, he is treasurer and a director of the Agricultural Ammonia Institute and a member of several professional organizations, including the American Chemical Society.

Three New Sales Offices for Floridin Co.

TALLAHASSEE, FLA. — Floridin Co. has opened new sales offices in New York, St. Louis and Dallas. Donald H. Mowell, president, stated that these new offices would enable Floridin to offer pesticide formulators better service on its fuller's earth carriers, diluents and extenders. Floridin's general sales offices are in Tallahassee.

Floridin Co. produces fuller's earth and activated bauxite adsorbents and desiccants. The company also produces Florisil, chromatographic adsorbent. In addition to pesticide formulators, the petroleum and chemical industries use Floridin products in a variety of applications requiring high adsorptivity.

CUSTOM SPRAY SCHOOL—Attending the recent Illinois Custom Spray Operators' Training School were numerous representatives of the pesticide industry, entomologists and custom operators from Illinois and neighboring states. In top photo are John H. Bigger (seated), Illinois Natural History Survey entomologist; John Jacobs, farm adviser in Kendall County, Illinois; William Burr, Rockford; J. R. Dennis, Lake City, and J. R. Davies, Standard Oil Co., Sycamore, Ill. Second photo shows Steve Moore (right), extension entomologist with the University of Illinois and Illinois Natural History Survey, discussing new insecticides with others attending the recent training school. Left to right, they include: A. F. Beckenholdt, Mansfield, Ill.; Howard Bryson, Lake Fork, Ill., and Al Renschen, Breese, Ill.

NEW 'SKEETER' WEAPONS NEEDED

BERKELEY, CAL.—Mosquito fighters in California will have to use new weapons and strategy to control the rapidly-multiplying pest, a University of California scientist warned.

Every year new cases of mosquito resistance to common insecticides are reported, said Dr. M. S. Mulla, entomologist at Riverside. But the main reason mosquitoes are multiplying is the increased amount of water being used by expanding cities and intensive, shifting agriculture.

In the new suburbs, run-off from lawns and gardens is offering Mr. and Mrs. Mosquito ideal places to raise big families.

Farmers taking over desert or dry hill country, when water becomes available, provide still more pest-breeding pools and ditches.

Dr. Mulla and Harold Axelrod, technician, have been attacking these problems in the San Joaquin Valley for 18 months. They know that in most cases the standard insecticides work. But they found that in some instances insecticides failed because they were not reaching the mosquitoes.

Judson Bemis Named Bemis Bag President

ST. LOUIS—F. G. Bemis, Boston, was elected chairman of the board and Judson Bemis, Minneapolis, president and chief executive officer of the Bemis Bro. Bag Co., it was announced last week by the company's board of directors.

Judson Bemis

The board also announced that C. W. Akin, Minneapolis, had been elected executive vice president, R. V. Scott, St. Louis, and B. L. Willmore, Boston, vice presidents, and J. T. Braxtan, St. Louis, assistant secretary.

Judson Bemis succeeds his brother, F. G. Bemis, who joined the company in 1926 and just completed his 20th year as its president. F. G. Bemis was elected a director of the company in 1927, assistant treasurer in 1929, vice president in 1937 and president in 1940. As chairman of the board, F. G. Bemis will be in the company's general offices in Boston.

The new president joined the company in 1937, following his graduation from Harvard University. Judson Bemis became manager of the Minneapolis plant in 1945 and was appointed director of central operations in 1952. He was elected a director of the company in 1939, assistant secretary in 1941, vice president in 1946, and executive vice president in 1956.

As president and chief executive officer, Judson Bemis will direct the company's nationwide operations from the Bemis general offices in Minneapolis.

Fertilizer Meeting Series Concluded in Northwest

PORTLAND, OREGON—A series of four fertilizer conferences were recently completed at Spokane, Wash. Three meetings had previously been held—two in Oregon, at Pendleton and at Corvallis, and the other at Pasco, Wash. The series of meetings drew an attendance of approximately 400, about evenly divided.

The series, formerly called "Dealers' Days," were sponsored by the Pacific Northwest Plant Food Assn., in conjunction with the soils department of Oregon State College and Washington State University.

Attendance was largely composed of fertilizer dealers—both liquid and solid — county agents in adjacent areas and staff members of both colleges.

ST. REGIS DIVIDEND

NEW YORK — Directors of St. Regis Paper Co. have declared a cash dividend of 35¢ a share on the common stock payable March 1, plus an extra dividend in stock of 2% payable April 1. Both disbursements are payable to holders of record Feb. 5. A similar stock dividend was declared a year ago.

AOAC Seeks New Award Nominations

WASHINGTON—J. B. Smith, president of the Association of Official Agricultural Chemists, has announced that nominations are being accepted for the fourth AOAC Harvey W. Wiley Award for Achievement in Analytical Methods. This award of $500 will be given to the scientist or group of scientists who have made outstanding contributions to the development of analytical methods for foods, drugs, cosmetics, feeds, fertilizers, and pesticides or for use in general analytical chemistry, Mr. Smith said. These are the fields of interest to the AOAC which are encompassed in its publication, "Official Methods of Analysis," primary laboratory manual of regulatory chemists and research workers in agriculture.

The first award was presented to L. C. Mitchell of the Food & Drug Administration. K. D. Jacob of the U.S. Department of Agriculture won the second award for his contributions to fertilizer analysis and technology. The third award winner was Francis A. Gunther, insect toxicologist of the University of California, Riverside, Cal., for his work in the field of pesticide residue analysis in fruits and vegetables.

FIRE DESTROYS BUILDING

PLANT CITY, FLA.—A fire of undetermined origin swept through a building of the McElvin Fertilizer & Grove Service here causing $38,000 damage. The building was destroyed and one fireman had to be hospitalized as a result of fighting the blaze.

T. C. Henderson

VICE PRESIDENT—T. C. Henderson has been appointed vice president of Collier Carbon and Chemical Corp., Los Angeles, with responsibility for all manufacturing operations of the company. He is an engineer and formerly served as plant superintendent, manager of process engineering and manager of manufacturing for Collier. He is a graduate of Glasgow University and the Royal Technical College, Glasgow, Scotland.

Agricultural Public Relations In Need of Revitalizing Action

By Louis H. Wilson*
Director of Information
National Plant Food Institute
Washington, D.C.

SOME TIME AGO the dean of one of our great land-grant colleges gave me the definition of "good public relations" . . . and this is the way he put it: "Good public relations is living right . . . and getting credit for it."

The dean's definition affords me the opportunity of saying that virtually all segments in our agricultural economy are "living right" . . . but they are not "getting credit for it." Too many American farmers are in the consumers' dog-house. They deserve better treatment.

Likewise, it is self-evident that the pesticides industry is the victim of a bad press . . . and I think there are many things we can do to turn this negative condition into a positive on behalf of the industry.

First of all is the challenge to tell the consumer, as well as the agricultural public, about the vast economic benefits to be had through the proper, efficient, and adequate use of weed killers. In fact . . . it is more than a challenge . . . it is a responsibility, which becomes of significant economic importance when your industry suffers because of inadequate public relations in the field of pesticides or weed killers.

I like a press release . . . issued by the National Agricultural Chemicals Assn. recently: "Weeds," the release states, "are the thieves and gangsters of the plant world. They steal water, food and sunlight from desirable plants. Some poison livestock and cause diseases in men. One . . . the African witch weed . . . actually kills corn and other grass plants by feeding on their roots."

This is the prelude to a discussion that followed some recent Washington developments.

One of the best "tools" available to combat poor public relations in the industry . . . is the truth about the products sold . . . the benefits that are provided to the user . . . and the tremendous value these products have in maintaining the comfortable standard of living in the U.S.

A few years ago, the Department of Agriculture estimated that weeds cost farmers $4 billion a year.

Today it is possible to kill as many as twenty million weeds in an hour in many crops with tractor-drawn spray equipment. A vast contrast to the man with a hoe of not so many years ago. Yet, because of the vast misunderstanding as to the economic value and the general importance of weed killers . . . a good public relations program assumes great significance. Therefore, the industry can solicit profitably and in most instances retain, a sympathetic understanding of weed control problems, with a personal visit to your newspaper, television or radio station, your farm magazine editor and others responsible for keeping the public informed.

I'll wager that all too few people in agricultural communications . . . or in any other kind of communications . . . think of weeds in terms of billion dollar losses.

While I do not wish to be presumptuous . . . I do believe recent events make it imperative for the herbicide trade to strengthen its educational program in terms of informing users of weed control chemicals about the importance of following directions, observing rigid safety requirements and in using practices in keeping with common sense. The job is not easy . . . but it is essential, if you are to maintain a reputation commensurate with the service performed.

Finally, I would urge you to support your trade association and utilize the services of land-grant colleges. These agencies have wide acceptability . . . are staffed with competent men . . . and they have a "stake" in telling a forthright story on the importance of adequate weed control.

I would like to use just one elemental example, from the National Agricultural Chemicals Assn. which advises: "It is very important that herbicides be used according to label directions for best results. 'Read and follow the label' should be repeated over and over in releases, speeches, etc., until every farmer realizes that proper use is the best use. Although herbicides do not present the hazards to humans that other agricultural chemicals may present, nonetheless, extreme care must be exercised to prevent damage to susceptible plants through drift, improper application, or other poor practices."

I used the word "elemental" advisedly, because the cornerstone of a good public relations program for you hinges on the elemental practices.

Now to be more specific in discussing the public relations problems of a man very close to us . . . the American farmer.

Some attention is being given to the fact that farmers are becoming a smaller group, numerically . . . and consequently, politically. Mind you . . . I didn't say "farmers are becoming less important." On the contrary . . . they are becoming increasingly important in our national economy . . . but their public relations is in poor repair. Too much attention has been given to the numerical significance of the farm population. We are constantly told that farmers represent only about 10% of our population. The fact is, that four out of ten workers in the U.S. are employed in agriculture and related industries.

Here are the facts: Out of 62 million workers, 23 million are in agriculture and related industries, 10 million work on farms, 9 million produce for or service farmers, and 9 million process or distribute farm products. In addition 250 thousand scientists are working on projects related to agriculture. These facts give us a little better picture of the importance of agriculture in our economy.

But, let's go further . . . how many folks know that the average value of assets per farm is $41,500?

That the investment per paid worker on farms is 3 times as great as the investment per production worker in the manufacturing industry? ($25,000 compared to $8,000).

Farmers are one of the biggest customers of industry . . . they use 50 million tons of chemicals annually . . . they use enough steel each year to manufacture 4,500,000 automobiles . . . they use enough rubber each year to put tires on 6 million cars . . . and agriculture buys more petroleum each year than any other industry.

Notwithstanding his importance to the well-being of the nation . . . the American farmer is a greatly misunderstood man. He has a good story to tell, and the story needs telling.

Most of us concerned with agriculture or its problems, either have not had the time or the inclination to delve into the public relations position of the farmer. It is a fascinating story; one replete with achievements.

Until agriculture is evaluated in terms of its importance to the economy instead of by population . . . the American farmer will continue to be misunderstood and unappreciated for the contributions he has made in keeping the U.S. the best fed, best clothed and the best housed nation in the world.

All of us have a responsibility, if not an obligation, to tell the story of agriculture . . . and to point with pride to the many contributions the American farmers have made in upgrading the diet . . . and in giving us a standard of living which is the envy of the world.

But—we cannot become complacent . . . for efficiency in American agriculture still leaves a great deal to be desired. If you will pardon me for using the industry that I represent as an example . . . the sad fact remains . . . that most farmers are using less than half as much fertilizer as their Experiment Stations say they could use profitably. The "public relations dog-house" in which most farmers find themselves . . . is still a challenge to us . . . and I would like to give you some ammunition with which you can dispel the fog surrounding agriculture today.

We can point with pride to the fact that one farm worker, working shorter hours, today can grow food for about 23 people compared with 11, in 1940. Would you believe it, this represents a gain of 115% in efficiency in 19 years!

Today, farmers are producing bountifully for a population 32% greater than in 1940. Farmers are producing nearly 50% more products on virtually the same amount of land they farmed before World War II.

Most folks don't know that, compared with 1940, corn yields are up 82%; wheat, about 78%; cotton about 66%; and potatoes, over 125%. Each cow is giving 87% more milk; and each hen is laying over 70% more eggs. I need not emphasize that these achievements contribute to our abundant living.

Here are views of a distinguished Midwestern dean of agriculture: "Not only do we get our foodstuffs in America with much less time spent earning it, but we eat more and better foodstuffs than ever before in our history. We're all 'eating higher on the hog' and enjoying it tremendously. And it doesn't cost us very much to do it either. The thing that bothers most of us in America today is not so much the high cost of living as it is the cost of high living.

"Foodstuffs come to the average American at bargain prices because research and education have made it possible for our great agricultural industry to produce in such abundance and so efficiently."

Let's take a closer look at our standard of living and the man who largely has made it possible . . . the American farmer.

Wages paid for an average hour of manufacturing labor will now buy some 32% more food than an hour's wages would buy in 1939. And, not to be redundant . . . look at these facts: Wages for an average hour of manufacturing labor currently will buy 38% more bread than it would have in 1939 . . . 11% more round-steak . . . 62% more milk . . . 33% more butter . . . 75% more eggs . . . and about 27% more oranges.

And would you believe it . . . there are those who think the farmer is getting rich!

In 1948 . . . out of every dollar the consumer spent for food . . . the farmer received 31¢ . . . his share today is only 36¢. Here's irrefutable evidence that the farmer is not getting rich.

I wonder how many consumers realize that the hard working dairy farmer receives less than one-half of the 24.8¢ for a bottle of milk . . . or that the wheat farmer receives only 2.4¢ of the 19¢ loaf of bread . . . or that the wool grower gets only $5 out of a $60 suit?

One of the best self-serving declarations in the interest of good public relations made in recent years . . . came from Dr. Byron T. Shaw . . . administrator of the Agricultural Research Service, U.S. Department of Agriculture. He said that if farmers farmed in 1950 as they did in 1940, without making technological progress during those ten years . . . the consumer's normal food bill could have been $10 billion a year more in 1950 than in 1940.

According to the best estimates we can get in our organization, if farmers farmed as they did in 1940, using the same amounts of fertilizer . . . the same kinds of insecticides . . . the same kinds of equipment . . . and the same practices . . . the consumer's food bill would have been nearly $13 billion a year higher than it currently is.

In relation to wheat and bread prices, our daily bread is quite a bargain. Here are the facts: In January 1948, farmers were getting $2.81 a bu. for wheat and consumers were paying 13.8¢ for a one pound loaf of bread.

By January 1955, the farmer's price had dropped to $2.14 a bu. and the consumer's cost had climbed to 17.6¢ a loaf. And by January 1959, the farmer was getting only $1.71 a bu. for wheat, and the consumer was paying 19.6¢ per loaf for bread. Thus, between 1948 and 1959—wheat prices dropped 39% and bread prices increased 42%.

Dr. Russell Coleman, executive vice president of the National Plant Food Institute (now president of the Sulphur Institute), was asked recently why consumers don't understand the farm problem. Here's part of his reply: "I think it's because the American public has never been hungry. We take food for granted. We don't think of its production as essential and important. We have always had a plentiful supply of food.

"Perhaps a 24-hour shortage of food would do more than anything else to convince the American people that food production is equally as important to our security as are the latest armaments. Khrushchev considers it so in Russia."

Dr. Arthur D. Weber, dean of agriculture, Kansas State University, recently made this statement: "Those who take food for granted and make snide remarks about farmers forget that few other people in the world can indulge in such extravagances. They overlook, too, that were it not for the application of science and technology to agricultural problems, they, themselves, quite likely would be groveling out a bare subsistence by tilling a small plot of land. The cold, hard fact is that never have agricultural public relations been at a lower ebb than now. The distressing fact also is that there was never less real justification for misunderstanding of the motives and objectives of farm people, nor for misinterpretation of agricultural problems than there is today.

"The difficulty, perhaps, is that never before have so few been able

(Turn to PUBLIC RELATIONS, page 19)

*Paper presented before Southern Weed Conference, Biloxi, Miss., January, 1960.

125 Attend State Soil Science Meeting; Speaker Stresses Organizational Need

RALEIGH, N.C. — Approximately 125 persons attended the Third Annual Meeting of the Soil Science Society of North Carolina which was held in Raleigh on Feb. 4-5.

Highlight of the meeting was an after dinner address by the honorable L. Y. Ballentine, commissioner of agriculture for North Carolina. Pointing out some of the reasons for today's misconceptions about agriculture, Mr. Ballentine stressed the need for an association of organizations at the state, regional, and national levels with the sole responsibility of telling the American public the true story of agriculture, its achievements, problems, and importance.

Continuing, Mr. Ballentine said, "He (the average American) does not know that where we have what are called farm surpluses today, we could easily have serious shortages tomorrow. That our steadily declining farm population and just as steadily an increase in total population could mean hunger and scarcity in the next 20 years if we let up on our research programs to discover new ways for conserving the soil and increasing its yields. He expects agriculture to exist and thrive as the only unsupported segment of an otherwise supported economy, because it has been carefully concealed from him that industry and non-farm labor are receiving government protection, subsidies, and supports. In short, American farmers—the world's most efficient producers for humanity's most basic material needs—are 'without honor in their own country.'"

In concluding, the commissioner said, "American farmers must be given the economic atmosphere in which they can be adequately rewarded for their investment of money and labor, if they are to survive. Their magnificent achievements and their importance must have public appreciation if our nation is to be kept healthy and safe."

The technical phase of the program was divided roughly into three sections. The first of these—Inventory of Our Resources—was covered Thursday morning. The discussion was led off by Dr. R. J. McCracken who discussed the permanent properties of major North Carolina soils and the relation of these properties to fertilizer and lime use.

Following this, the group was shown a film on soil testing which was prepared jointly by the soil testing division of the North Carolina Department of Agriculture and the visual aids department of North Carolina State College. The making of the film was supported, in part, by a grant from the National Plant Food Institute.

Dr. E. J. Kamprath, director of the soil testing division, next discussed soil testing recommendations. A point of importance, emphasized by Dr. Kamprath, was that the highest yields are obtained on soils—fertility level of which is high. He stressed the importance of building fertility up to a high level and then maintaining it with adequate applications of phosphate, potash and lime.

Following Dr. Kamprath, D. D. Baggett, county agent of New Hanover County, discussed his views of soil testing. He enthusiastically endorsed it as an excellent means of inventorying the farmers' soil as well as being a very effective way of increasing the growers' awareness of the importance of a sound soil fertility program to economical crop production.

Henry Swart, farmer from New Hanover County, discussed the importance to him as an individual of soil testing. Mr. Swart stated that he always had a soil test made on each field well before planting time. He uses the information thus obtained to determine his own fertilizer practices and he does not use the recommendations made by the soil testing division. He stated that in his opinion more farmers should follow the same procedure because the farmer himself is in the best position to know his own land, the yields he wants, and the limitations and opportunities which his particular operation provide.

Thursday afternoon was devoted to a discussion of various phases of nitrogen fertilization. Dr. C. B. McCants pointed out the effect of soil fumigation on nitrogen transformations with special reference to tobacco fertilization.

Following this, Dr. J. R. Adams of the Agricultural Research Service, U.S. Department of Agriculture, talked about the pattern of nitrogen use in North Carolina over the past several years.

Nitrogen research under way in North Carolina State at the present time was covered by J. M. Brown, F. B. Cady and R. C. Coffee. The topics of ammonia losses, denitrification and the hydrolysis of urea were included.

Friday morning Dr. J. W. Fitts discussed, at some length, the topic of soil profile modification. He emphasized that lime and phosphate worked uniformly into the top 20 to 26 in. of soil were necessary to provide a medium favorable for the development of roots at these greater depths. The increased depth of rooting, in turn, enables a plant to draw on a greater supply of water thereby permitting it to withstand the periodic drouths that characterize the southeastern region. Dr. Fitts stressed that the increased supply of water available to the crop was the principal advantage of soil profile modification.

S. L. Tisdale, southeastern regional director of NPFI, reported on lime, its characteristics and use. Pointing out that the inadequate use of lime over the past number of years in North Carolina was not necessarily an unchangeable pattern, Mr. Tisdale noted the increased use of lime and fertilizer that had resulted in the counties putting on intensified soil fertility programs. In these counties, a real effort had been made to impress the farmer with the importance to himself of a sound lime and fertilizer program. As a result, fertilizer and lime dealers had participated in a more active merchandising effort to move their products. Said Mr. Tisdale, "With all of the publicity and service that they (the soil fertility programs) have afforded, an active selling effort has been made. This active rather than passive ap-

"Red" Emm shows you...

HOW MONSANTO WEED KILLERS BUILD STORE TRAFFIC ...HELP YOU SELL!

New "Red" Emm SUPER-6 CONCENTRATES! Brush Blitz, Crop-Guard Weed Killer, Brush-O-Cide, and Field Clean Weed Killer... a new line of 6-lb. formulations that give your customers more "kill" at a lower cost...two cans do the work of three! These SUPER-6's spray 50% more acreage than ordinary 4-lb. formulations.

proach to the sale of fertilizer and lime has resulted in the movement of increased tonnages of both of these materials—and farm income has increased correspondingly. And, in my opinion, therein lies the solution of the paradox—it isn't new—it isn't startling. It is what we have really known all along but we just haven't done it. We must promote, serve and sell."

Following Mr. Tisdale's discussion, Dr. W. V. Bartholomew talked on the aspects of subsoil fertilization. Following this, N. L. Sugg of the Planters Cotton Oil and Fertilizer Co. of Rocky Mount closed the meeting with a statement summarizing the preceding events.

JOHN W. LOOPER DIES

DALTON, GA.—Funeral services were held in Dalton for John W. Looper, 65, retired fertilizer manufacturer and cotton broker. He had been retired for a number of years.

Washington Potato Growers Hear Trial Results

QUINCY, WASH.—Washington potato growers were learning the results of fertilizer trials at a series of five Potato Grower Conferences being held here and at Warden, Pasco, Grandview, Ellensburg and Mt. Vernon.

The conferences are sponsored cooperatively by Washington State University, the Washington State Potato Commission and the Washington and U.S. Departments of Agriculture.

A. I. Dow, extension specialist in outlying testing at WSU's Prosser experiment station, reported on outlying testing results with fertilizer on potatoes.

Mr. Dow said 10 trials on potatoes have been conducted in farmers' fields during the past 10 years with these findings:

1. In 1957, 120 lb. of nitrogen per acre were required for top yields on previously cropped land. On new land at Othello 240 lb. were necessary.

2. The year 1958 was a hot season and response to fertilizers generally was not great.

3. There was no significant yield response to phosphorus or potash in any of the trials for the two years.

4. There was no influence of fertilizer on grade except at Othello in 1957. In this case where the yield was increased 400% with nitrogen, there was also an increase in percent of No. 1 potatoes.

The potato growers also heard a report on the aphid problem by B. J. Landis of Agricultural Research Service who told them "more care taken (with aphid controls) in the production of the summer crop of potatoes should help improve the storage quality of the fall crop." Washington's production of russets grown for storage has been declining for years.

MUST REGISTER

DENVER, COLO.—The plant industry division of the Colorado Department of Agriculture has warned merchants throughout the state they must register all pesticides with the department for approval before offering them for sale, according to F. Herbert Gates, chief of the division.

The Colorado Insecticide, Fungicide and Rodenticide Act adopted in 1941 and amended in 1947, requires registration to protect the public and standardization of pesticides, he has pointed out. Despite this hundreds of products worth "at least $5,000" are confiscated from merchants' shelves each year because they have not been registered and approved, Mr. Gates added.

In many instances merchants such as drug, grocery, hardware, feed and seed, and milling and elevator operators, "just simply forget" the products must be registered.

New System Enables Year-Long Insect Study

GENEVA, N.Y.—New insecticides produced by the chemical industry are now being evaluated throughout the year as a result of recent developments at Cornell's New York State Experiment Station at Geneva.

Evaluations of chemicals for control of the plum curculio, a native pest of major concern to fruit growers, were formerly restricted to several weeks each spring when the beetles attacked the fruit. Station scientists, after studies of the life history and habits of the species, succeeded in creating artificial conditions favorable to rearing the species continuously in the laboratory.

With test insects available throughout the year, a new approach to evaluation of chemicals was possible. The tests disclose not only whether a chemical is effective in killing the pest, but also how the insect acquires a lethal dose.

While some chemicals are highly effective if applied to the body wall, others are effective only when consumed with food, explain the Cornell scientists. Still others are consumed with drinking water available as dew or rain.

The method also reveals the speed with which the chemical acts in preventing egg laying. This is important considering the strong urge of the female to lay eggs before death thus ensuring survival of the species.

"It formerly took several years to accumulate sufficient evidence under variable natural conditions to decide whether a new chemical had sufficient promise to warrant practical testing by growers," comment the station workers. "This information can now be acquired in several weeks thus reducing the lag between the test tube and use by the grower."

Sulfur Production Reported for November

WASHINGTON — The domestic sulfur industry produced 408,481 long tons of native sulfur and 51,623 tons of recovered sulfur (of a purity of 97% or greater) during November, 1959, the Bureau of Mines, U.S. Department of the Interior reported.

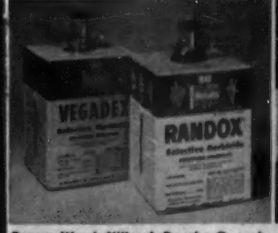
This was an increase over the same month in 1958 but a drop from October, 1959 tonnage.

Producers' stocks of native sulfur decreased from the previous month, and at the end of November totaled 3,833,537 tons.

Southern Control Officials Schedule June Meeting

RICHMOND, VA.—The 18th annual convention of the Association of Southern Feed & Fertilizer Control Officials will hold its annual meeting at the Riverside Hotel in Gatlinburg, Tenn., June 21-22.

Here's a free double-barreled direct mail program that really brings the customers in...a tried and proven traffic builder...just stock 100 gallons of any combination of Monsanto weed and brush killers. Monsanto will send out two mailings to 100 of your top customers. The first mailing invites them to come into your store... the second mailing offers them a $1.00 pack of farm utility needles absolutely free! You get 200 mailings and 100 of these useful needle packs at no charge.



Grassy-Weed Killers! Randox® and Vegadex®—new spray-as-you-plant weed killers—knock out grassy weeds in corn, soybeans, and vegetables. Exclusive products for higher dealer profits.

Easy-to-use containers that "tell" and "sell"! These new 5-gallon spout-top cans almost sell themselves. Each can tagged with complete "how-to-spray" instructions written in plain language.

Monsanto advertising sells and re-sells your customers! Your customers will see "Red" Emm products advertised in Farm Journal, Progressive Farmer, Farm Quarterly and many state farm papers.

Lifelike display of "Red" Emm solves weed problems! Giant display with the "dial-the-crop" selector answers customers' questions for you tells just what weed killer to use.

Monsanto®

Learn how Monsanto can help you sell more in 1960. Mail this coupon right now (while you are thinking about it) and get all the money-making facts.

Monsanto Chemical Company, *Organic Chemicals Division*
Agricultural Chemicals Department, St. Louis 66, Missouri

Sounds good! Please send me more information regarding the new Monsanto Weed and Brush Killer line.

NAME.....

FIRM.....

ADDRESS.....

CITY or COUNTY.....STATE.....

"This Sul-Po-Mag program will move fertilizer"..

This is the conclusion of John C. Crissey, Division Manager of the Soil Building Service, GLF Exchange, Ithaca, N. Y., and Mr. George Serviss, Agronomist, as they discussed the SPM program with IMC District Sales Representative, Robert A. Heuerman.

GLF, like many other fertilizer manufacturers, has been using Sul-Po-Mag as the magnesium source for their Super Plant Food. Customers in their area are becoming more and more familiar with magnesium deficiencies . . . the cause of these deficiencies . . . the cure for these deficiencies. To a large extent this awareness of the importance of magnesium has been a result of the fertilizer industry's extensive educational program. Directed to growers and agricultural idea leaders . . . such as vo-ag teachers, county agents and extension specialists . . . this program has helped build a market for manufacturers who use Sul-Po-Mag as the magnesium source for their mixed fertilizers.

To help manufacturers capitalize on this promotion in national agricultural magazines, IMC has prepared a program of SPM selling aids. Newspaper ad mats, tags, seal imprints, posters and direct mail pieces are designed to help each fertilizer manufacturer identify his brand as containing Sul-Po-Mag.

Below your IMC representative discusses promotional materials included in the Sul-Po-Mag program with officials of the GLF Exchange. To learn how you benefit from SPM advertising to growers in your area . . . how you can give your sales an extra boost . . . contact your own local IMC representative and let him give you the full story.

IMC: "We consider this magnesium booklet a very important part of our Sul-Po-Mag promotion. It gives the details on how to spot magnesium deficiencies in many crops and has been very successful in educating growers in all parts of the country."

GLF: "In our selling areas we find that the demand for magnesium-enriched fertilizers is growing every year. Evidently this promotion by IMC is taking hold. We have used Sul-Po-Mag in our Super Plant Food for some time."

IMC: "This Sulphate Bulletin is another helpful way in which IMC educates your market to the need for Sul-Po-Mag. It goes to idea leaders in all agricultural areas and gives information on specific crops. It's published every 3 months."

IMC: "This full color wall chart imprinted with your company name makes customers think of you as specialists in handling magnesium deficiencies. Also, this imprinting helps tie in SPM promotional materials with your total advertising effort."

GLF: "Our bags carry the SPM seal. This is important because we tie our promotion into Sul-Po-Mag . . . we use the SPM mailers, envelope stuffers as well as ad mats for newspapers to tell our customers about GLF Super Plant Food."

IMC: "With the national promotion which IMC directs to specific crop areas — such as cotton, tobacco, vegetables and grains — and the promotion fertilizer manufacturers give at their own local level, Sul-Po-Mag advertising covers all markets."

Products for Growth®

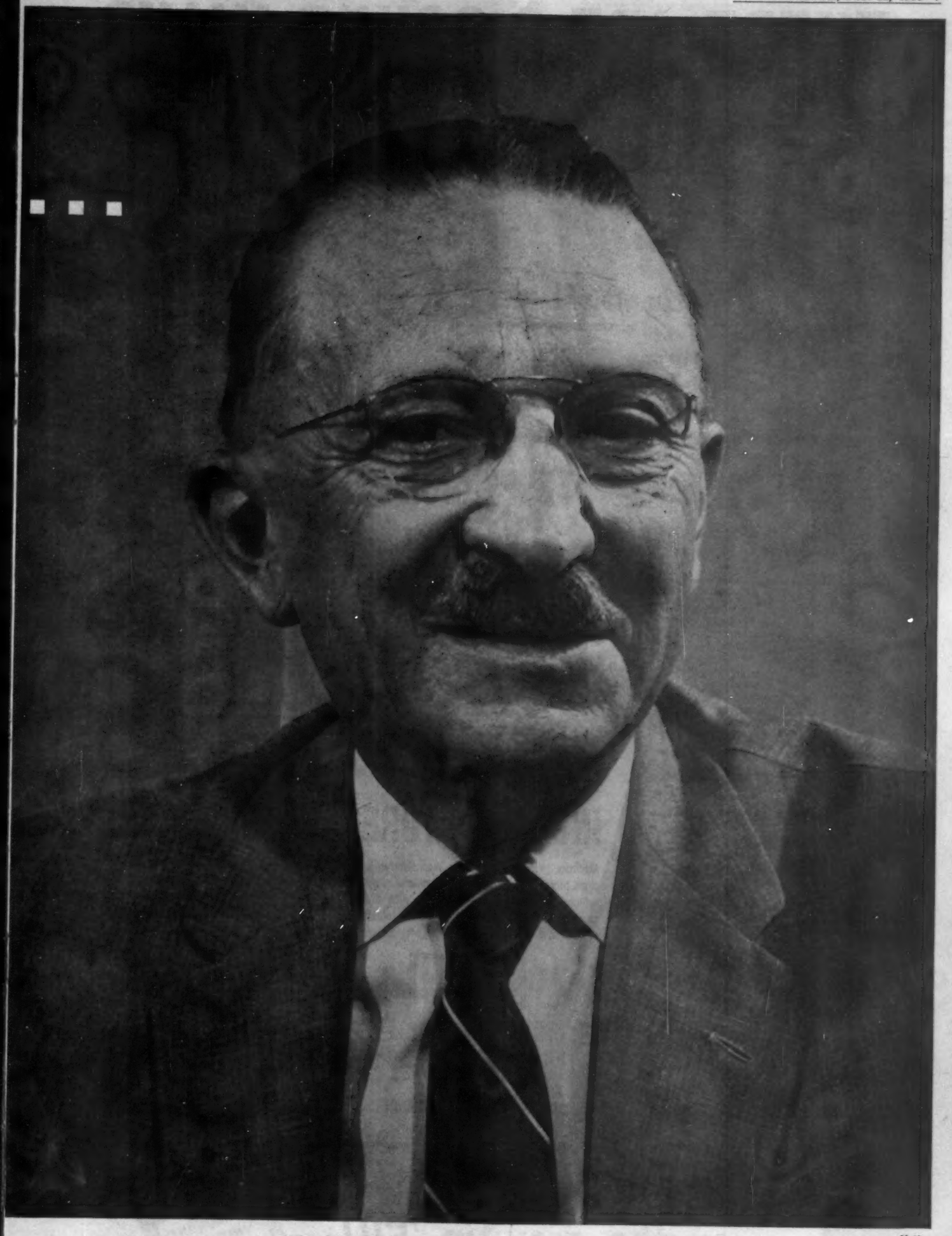
IMC

®Trademark

AGRICULTURAL CHEMICALS DIVISION

INTERNATIONAL MINERALS

Administrative Center — Skokie, Illinois



88-60

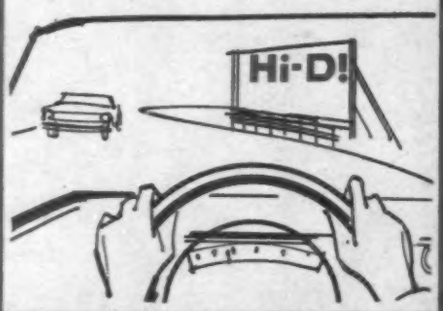
& CHEMICAL CORPORATION

THERE ARE 6 SOUND WAYS TO SELL IN '60

AND THE Hi-D® PROGRAM'S GOT THEM ALL!

OUTDOOR

Billboards in 879 locations spread across 13 top-market states in the South and Midwest.



TELEVISION

A 10-state campaign for a solid 13 weeks emanating from 18 TV stations.

RADIO

A 13-week advertising program that saturates 17 states from 75 radio stations.

MAGAZINES

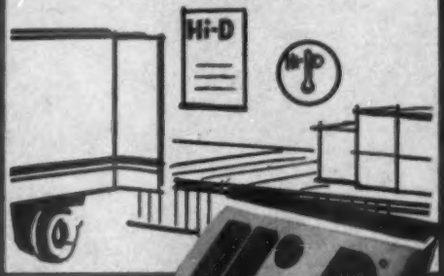
Full-page, four-color advertisements appear in "Progressive Farmer" . . . "Farm Journal" . . . "Successful Farming" . . . and "Farm & Ranch."

INSIDE THE STORE

Attention-getting point-of-sale material for in-store promotion. Includes Hi-D mobile . . . soil sample bags . . . counter display with Hi-D samples . . . wall banners . . . consumer folders . . . matches . . . and technical data service.

OUTSIDE THE STORE

Two brand-new items designed for posting outside your store or warehouse: attractive Hi-D metal sign and large clock-style thermometer identify your store as Hi-D headquarters.



Hi-D keeps your sales on the grow in '60!

CSC

COMMERCIAL SOLVENTS CORPORATION Offices in Atlanta, Chicago, Cincinnati, Cleveland, Detroit, Kansas City, New Orleans, New York, St. Louis, Sterlington, La.

Varied Supply Keeps Spray Trade Active

By AL P. NELSON
Croplife Special Writer

Practically 90% of the customers of the Green Chemical Co., Winchester, Va., are apple growers who use up to 13 sprays during the season to produce apples for the eastern market. About 10% of the firm's customers grow peaches.

The Green Chemical Co. keeps a wide variety of fruit sprays on hand for its customers, and also handles a line of fruit harvesting supplies. J. Douglas Butler, manager, and Elmer H. Lauck, assistant manager, report that fruit growers follow very carefully the spray recommendations in the Virginia Spray Bulletin. This is issued annually by the Virginia Polytechnic Institute with the cooperation of the U.S. Department of Agriculture.

Apple growers in this region use a dormant spray, delayed dormant, pre-pink, bloom, petal fall spray and first to seventh cover sprays. Some also use a contact no-residue spray for leaf roller. Leaf rollers can peel an apple on a tree in 24 hours if not checked, reports Mr. Lauck.

One customer who has 300 acres of apples spends about $4,500 per spray, reports Mr. Lauck. He uses from 13 to 15 sprays per year. He uses 225 tanks (500 gal. each) and it costs him about $20 per tank for the spray. This fruit grower has 10-12 men working for him full time the year around. He has five tractors, eight trucks, two sprayers and two supply tanks.

"A customer like this uses a great deal of spray material," reports Mr. Lauck, "and he gets all of it here."

THE ATTRACTIVE front of the Green Chemical Co. in Winchester, Va., is a good customer drawing card.

The Green Chemical Co. was formed in 1937 by 13 fruit growers. Today 82 fruit growers and farmers and a few other individuals own stock. The president is Clyde Logan, a farmer. The firm distributes for Niagara Chemical, California Spray-Chemical Corp., Chipman Chemical Co. and American Agricultural Chemical Co.

Quite a few of the fruit growers in the area say that it costs them about $1 per 100 lb. to raise apples, including the spray program. They get very little more than this from the commercial apple companies, it is reported. Therefore, fruit raisers, says Mr. Lauck, need to take advantage of every production idea and other cost cutting plans in order to meet rising business expenses.

The firm has four men who work in the store and warehouse, including delivery men. The company also has a two way radio system. This helps in giving better service to fruit growers. By means of two way radio, farmers can phone in orders via the delivery truck. Thus, the firm can sometimes send another order out with another truck the same day. Truck drivers can also call in for more information, tips, etc.

The cost of the radio system was $2,700 installed. The firm operates it under a federal license. One reason for installing the radio system was the congestion and slowness of country phone service.

"We can give much better service to customers through use of this radio system and also sell more merchandise," states Mr. Butler. "When growers want field service or additional spray materials, they usually want them in a hurry. Through the radio system they can get in touch with us quickly when our trucks are in those areas."

The company has a sizable store display of packing supplies for fruit growers, such as baskets, corrugated paper boxes, stencil brushes, picking bags, buckets, liners, picking ladders, cushions, staplers and staples. In fact, the fruit grower can get just

(Turn to VARIED SUPPLY, page 16)

Careful Planning Plus Taking Chances Called Success Ingredients by Dealer

"The way to success in this business is careful planning plus sticking your neck out," says Norman Johnson, owner of Johnson Gardens at Redwood Falls, Minn. The point he makes is that working the plans is as important as making them.

Mr. Johnson is in the nursery business and also handles 2,000 units of insect, plant disease and weed chemicals. This is a step up from 200 units five years ago.

"We handle only thoroughly tested merchandise," he says. Chemicals include the Ortho, Vaughn, Acme and Swift lines.

Three practices contribute to the sales promotion program, Mr. Johnson says.

First, satisfying the customer's entire needs. Is there anything else he wants in addition to his recent purchase? If he bought rose bushes, how about rose dust, fertilizer, or peat?

Second, conducting drawings for prizes to an annual value of $500. "It is a little hard to say how much to credit this part of our program, but our sales keep increasing, and we expect them to double next year." Daily drawings are made early in the season and at weekly intervals later in the season.

Third, an advertising program with two area newspapers and two radio stations.

Chemical sales are a natural with the nursery business, Mr. Johnson says. When people buy stock they want to know how to care for it.

Mr. Johnson started his nursery business thirteen years ago with three cold frames. Now he has a two story garden store and office, and 3,500 sq. ft. of greenhouse space under cover.

He made his progress by careful planning plus "sticking the neck out."

→

NORMAN JOHNSON, owner of Johnson Gardens, Redwood Falls, Minn., looks over one of his many chemical displays.

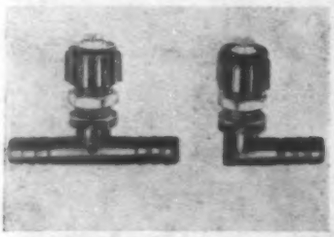
WHAT'S NEW

IN PRODUCTS · SERVICES · LITERATURE

To obtain more information about items mentioned in this department simply: (1) Clip out the entire coupon in the lower corner of this page. (2) Circle the numbers of the items of which you want more information. Fill in the name and address portions. (3) Fold the coupon double with the return address portion on the outside and fasten the edges with a staple, cellophane tape or glue. (4) Drop in the mail box.

No. 6019—Hose Connector Nozzles

The Delavan Manufacturing Co. has announced the addition of nylon hose connector nozzles to its line of agricultural sprayer nozzles and accessories. Designed as a simple, inexpensive method of producing a corrosion resistant boom, the connector nozzles can be used with ½ in. cor-



rosion resistant hose with single or channel iron boom, the company says. They are available as "T" or double hose inlet and "L" or single hose inlet. The "L" shape connectors will be needed for boom and end nozzles. Lock nuts are supplied as standard equipment. For details check No. 6019 on the coupon and mail.

No. 6022—Tank Fittings

Information on its line of valves, gauges and indicators is available from Texas Tank, Inc., in a bulletin describing its full line of tanks for holding anhydrous ammonia. Some tanks are for stationary use and others are mounted on farm wagons for transporting the material to work locations. Auxiliary equipment includes outage gauges, vapor return, pressure gauges, liquid level gauges, combination liquid fill and withdrawal valves and hose assemblies. Full information is available by checking No. 6022 on the coupon and mailing to this publication.

No. 6018—Folder on Insecticides

A folder containing information about Diazinon insecticide products has been released by Geigy Agricultural Chemicals, division of Geigy Chemical Corp. The folder contains brief information about Diazinon 25E, Diazinon 20S and Diazinon 2D. For copies check No. 6018 on the coupon and mail.

No. 6017—Air Row Crop Attachment

John Bean Division of Food Machinery and Chemical Corp. announces the availability of the Model 10-RC Aircrop, equipped with the Prestomatic push button remote control system. The attachment sprays a 40 ft. to 50 ft. swath. A uniform spray pattern is assured by seven disc-type nozzles and a specially designed discharge head equipped with air directing vanes, the company says. The discharge unit can be rotated to take advantage of prevailing winds. Suited for use with sprayers of 10 gpm capacity and larger, the model is equipped with a seven-blade aluminum 21 in. axial flow fan which is statically and dynamically balanced. For details check No. 6017 on the coupon and mail.

No. 6020—Hose End Sprayers

A hose-end sprayer series featuring automatic blending, push-button shut-off valve and a shatterproof polyethylene jar has been introduced by Universal Metal Products Co., division of Air Control Products, Inc. The sprayer has two metering heads, a 6 gal. capacity on Model 506 and a 20 gal. capacity on Model 520, and

has brass internal mixing chambers which blend the spray concentrate and water at the right ratio, the company says. The conventional quart-size, shatter-proof polyethylene jar is used in both sizes. The push-button shut-off valve allows operator to shut off the spray at the sprayer. Both sizes have a completely adjustable nozzle for any angle of spray. For details check No. 6020 on the coupon and mail.

No. 6021—Sprayer Manual

Century Engineering Corp. has published a new sprayer manual for 1960, containing information on how to select the right sprayer for application of pesticides on livestock, pastures, and row crops; and also the correct type of equipment for use in applying fertilizers. Diagrams of spray patterns are shown, as are cut-away pictures of equipment. Written instructions are presented to stress the importance of timing, descriptions of jet sprayers and boom sprayers, and a chapter on the control of weeds and insect pests. The booklet is available by checking No. 6021 on the coupon and mailing to this publication.

Also Available

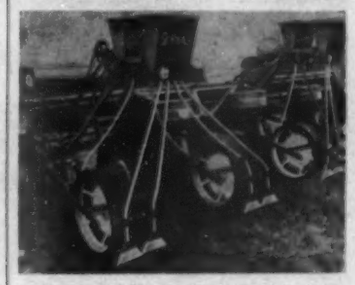
The following items have appeared in previous issues of Croplife. They are reprinted to help keep dealers on the regional circulation plan informed of "What's New."

No. 6015—Systemic Insecticide

A systemic insecticide that gives young cotton plants protection against a variety of insects has been placed on the market by Chemagro Corp. Called "Di-Syston," the product has been registered for use by the U.S. Department of Agriculture. According to company literature, the product is effective against aphids, mites and thrips and is harmless to predators. It is applied to the ground in granular form at the same time the cotton seeds are planted. For more information, check No. 6015 on the coupon and mail.

No. 6014—9 Applicator Models

Gandy Co. has announced the introduction of nine new models to its 1960 line of granular chemical applicators for soil insect and/or weed control. The company has 12 models now, including units to fit any planting equipment, lister, cultivator or tool bar. Newly incorporated features include an improved rate-control me-



tering system, a weather-tight hopper, a new mounting bracket, heavy duty stabilizer braces adjustable to fit all planters, a new drive sprocket, and a new distribution tube assembly. For more information, check No. 6014 on the coupon and mail.

No. 6013—Spreader Bed Booklets

Fipps, Inc., has issued a booklet on the company's fertilizer, lime, phosphate spreader, featuring a complete description of the spreader bed. Features outlined in the booklet include the two-speed transmission, 19 ft.

hoods, 20 in. single distributor fan, spinner case and speed reducer. The spreader bed featured is designed for maximum spreading coverage with a minimum of trips through the field. For copies of the booklet, check No. 6013 on the coupon and mail to this publication.

No. 6016—Bulletin on Weed Killer

A bulletin containing information on the use of R-H Weed Rhap-20 in weeding corn fields, has been released by Reasor-Hill Corp. The colored, illustrated bulletin lists advantages of

Send me information on the items marked:

- ☐ No. 6008—Mist Sprayer
- ☐ No. 6009—Fog Generator
- ☐ No. 6010—Fork Lift Truck
- ☐ No. 6012—Anhydrous Applicator
- ☐ No. 6013—Spreader Bed Booklets
- ☐ No. 6014—New Applicator Models
- ☐ No. 6015—Systemic Insecticide
- ☐ No. 6016—Weeds Killer Bulletin
- ☐ No. 6017—Air Row Crop Attachment
- ☐ No. 6018—Folder on Insecticides
- ☐ No. 6019—Hose Connector Nozzles
- ☐ No. 6020—Hose End Sprayers
- ☐ No. 6021—Sprayer Manual
- ☐ No. 6022—Tank Fittings

(PLEASE PRINT OR TYPE) COUPON NOT VALID AFTER 60 DAYS

NAME .....

COMPANY .....

ADDRESS .....

SLIP OUT—FOLD OVER ON THIS LINE—FASTEN (STAPLE, TAPE, GLUE)—MAIL

FIRST CLASS PERMIT No. 2 (Sec. 34.9, P. L. & R.) MINNEAPOLIS, MINN.

BUSINESS REPLY ENVELOPE
No postage stamp necessary if mailed in the United States

POSTAGE WILL BE PAID BY—

Croplife

P. O. Box 67

Reader Service Dept. Minneapolis 40, Minn.

the product and has a step by step drawing showing the operational sequence using the product. A table shows the effects of various levels of weeds on corn yield. For copies, check No. 6016 on the coupon and mail to this publication.

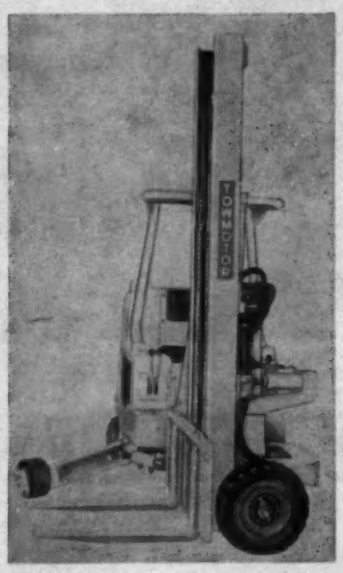
No. 6008—Air-type Mist Sprayer

The model 51 "Rotomist" has been introduced by the John Bean Division of Food Machinery & Chemical Corp. The air-type mist sprayer is designed especially for mosquito control. Features include a 21 in. axial flow fan and Hypro pump producing 15 gpm at 150 psi. The model is mounted on a 75 gal. tank, is manually rotated through 360° pivoted at the center of the base on six 3 in. steel rollers, and has a 35° angle discharge head available for spraying small to medium trees. It also has a

special fuel oil injecting system that emits smoke into the air stream to trace the spray pattern. Power is from a two cylinder, 13 h.p. air-cooled engine. For details, check No. 6008 on the coupon and mail.

No. 6010—Fork Lift Truck

Towmotor Corp. announces the model 590 fork lift truck in the company's "Naro-Aisle-Stack" series. The entire front end assembly can be pivoted a full 90° in either direction. To right or left angle stack loads in an aisle as narrow as 6 ft.



The hydraulically-operated outriggers stabilize the unit during the pivoting operation. Wheelbase is 59 in. Capacity is 4,000 lb. at 24 in. load center. For details, check No. 6010 on the coupon and mail.

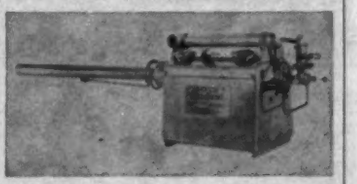
No. 6012—Anhydrous Applicator

John Blue Co. announces a "Mono-Wheel" applicator for anhydrous ammonia. Attached directly to the tractor in a few seconds, the applicator has characteristics of maneuverability, economy and simplicity of design, the company says. The tank, carriage, pump and drive are a completely self-contained unit. The pump, ground driven for accuracy, is a model

"ANDY" anhydrous ammonia metering pump. The tank is mounted on heavy duty saddles for operation under severe conditions, the company says. For details, check No. 6012 on the coupon and mail.

No. 6009—Insecticide Fog Generator

The Dyna-Fog "50," an insecticide fog generator, has been edded to the Curtis Automotive Devices, Inc., line of insecticide dispensing equipment. It is designed primarily for indoor



applications, but can be used outside also, the company says. It produces a dense cloud of dry insecticide fog without residues, the company says. It weighs 16½ lb., it is portable, is 52 in. long and is constructed of stainless steel and aluminum. It is powered by a regular grade gasoline. For further information, check No. 6009 on the coupon and mail.

Monsanto to Move Lion Oil Personnel To St. Louis Location

ST. LOUIS—In line with Monsanto Chemical Co.'s long-range plans to centralize all divisional headquarters groups at its general offices here, administrative and office employees of the Lion Oil Co. division at El Dorado, Ark., will move to St. Louis in mid-1961, Charles Allen Thomas, president, has announced.

The announcement that Lion divisional headquarters would be relocated followed by two weeks a similar statement concerning the transfer of administrative personnel of the company's plastics division to St. Louis from Springfield, Mass. When both Lion and plastics division personnel have completed the move, Mr. Thomas said, all Monsanto divisions will be headquartered at the company's new general offices site in suburban St. Louis County. An additional office building is being constructed to house the personnel from El Dorado and Springfield.

Monsanto's general offices, first occupied in 1957, permitted for the first time since 1951 the location of all St. Louis-based divisions and departments at one site. Mr. Thomas pointed out that the consolidation of all divisional administrative personnel at St. Louis would improve communications, reduce costs, increase efficiency and provide closer company-wide coordination.

PRESS REPRESENTATIVE

WILMINGTON, DEL.—Andrew W. Shearer has been appointed a technical press representative in the public relations department of Atlas Powder Co. He will also serve as editor of "The Atlas Family," company employee magazine, according to an announcement by Dr. Sydney Steele, director of public relations.

America's Most Complete Line of Liquid Fertilizer Applicators

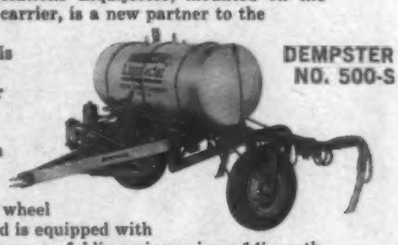
DEMPSTER

LiquiJector

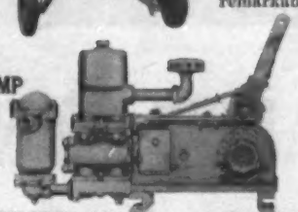
NO. 600-S

Dempster, developers of the most modern and complete line of Liquid Fertilizer and Anhydrous Ammonia Applicators now offers you even greater versatility with several new models. At left is the new Dempster 600-S Solutions Liquijector—also available in Anhydrous Ammonia models. Mounted parallel on the new Dempster 690 carrier, the applicator tank can be adjusted forward or back for perfect balance. The axle is also adjustable from 72" to 84" and the applicator can be set for high (26") or low (20") clearance. Optional folding wing extensions permit application up to 14' width. Fiberglass, aluminum or black iron tanks and either rigid or double coil spring shanks are available.

DEMPSTER No. 500-S Solutions Liquijector, mounted on the famous Dempster No. 500 carrier, is a new partner to the No. 500 Anhydrous Ammonia Liquijector. It is extremely versatile since many plowing, discing or fertilizing tools can be attached to the drawbar for simultaneous operation with the fertilizing. This sturdy Dempster 500 Carrier has adjustable wheel spacing from 48" to 80" and is equipped with rubber tired 15" wheels. Clamp-on folding wings give a 14' swath. The high clearance makes it ideal for side dressing row crops.



SPRAY BOOM APPLICATION is a new feature of the Dempster liquid fertilizing line. The TT 9D Spray Boom, shown at left mounted on a Dempster No. 600 carrier can also be used with applicators on the Dempster No. 500 Carrier. The application is metered with the famous Dempster solutions metering pump, simple to operate and maintain and remarkably accurate.



DEMPSTER Metering and Transfer Pumps. Super-Accurate, easy to set and adjust, use and maintain Dempster Metering Pumps are the smoothest acting metering devices available for Anhydrous Ammonia and Liquid Solutions. Model B Liquijector Pump for Anhydrous will deliver from 0 to 150 lbs. of N per acre in 200" swaths, more in smaller swaths. Models SC and SN pumps are specifically designed for liquid fertilizer solutions. The SN pump has Ni-Resist castings to handle corrosive materials.

DEMPSTER portable transfer pumps are fast, efficient and compact, pumps for transferring solutions and field or storage tanks to applicators. Model CR, shown, comes complete in four sizes with gasoline engines; Model 5M-CR-2-UD has a universal drive for use with engine or electric motor.

WRITE for full information on the Dempster line of Liquid Fertilizer applicators—tractor mounted, semi-mounted and carrier mounted.

DEMPSTER DEMPSTER MILL MFG. CO.
Home Office and Factory - Beatrice, Nebr.

Branches: Kansas City, Mo. Denver, Colo. San Antonio, Texas Sioux Falls, S.D. Oklahoma City, Okla. Des Moines, Ia. Omaha, Neb. Amarillo, Texas

HOW LION E-2* HELPS YOU GET THE

Lion E-2 Ammonium Nitrate has distinct advantages that can make your selling job easier, quicker, and more profitable.

Lion E-2 is the only ammonium nitrate on the market that can save 20 to 25% of your valuable storage space. Because each Lion E-2 prill is physically concentrated, you can stack *five* 80-lb. bags of Lion E-2 in the same space previously taken up by just *four* 80-lb. bags of any other brand. The space you save can be utilized for larger inventories and larger profits.

Lion E-2 bags are easier to handle. They're specially "friction-ized" with Monsanto Syton,® a special antislip agent for faster gripping, safer stacking. You can stack Lion E-2 higher without fear of bag damage due to slippage.

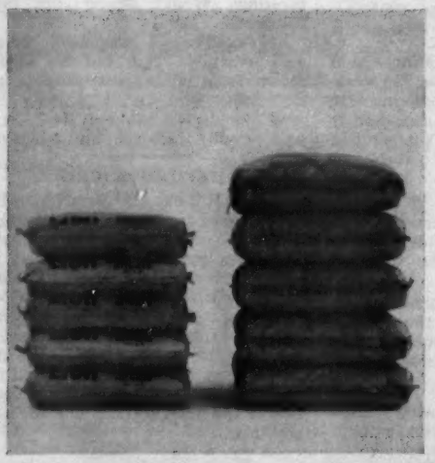
Lion E-2 saves your customers time when they need it most. Because Lion E-2 is concentrated, your customers can put up to one-fourth more material in their spreaders. They eliminate at least one out of every five refill stops. Lion E-2 spreads easily, produces the yields that build repeat business for you.

Lion E-2 is going to be seen, heard, and talked about by all of the folks in your county. Unusual advertising (and a lot of it) is going to make your customers "Lion-conscious." They'll recognize Lion E-2 as a dependable product that's guaranteed 33.5% vital nitrogen.

Get set now for the "lion's share" of business. Write LION E-2, Monsanto Chemical Company, St. Louis 66, Missouri.

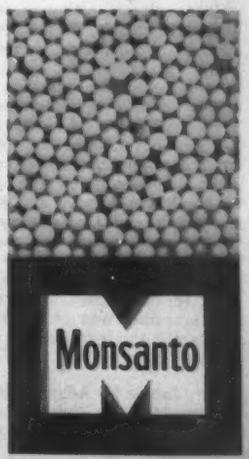
LION and SYTON: Reg. T. M.'s; "E-2: T. M., Monsanto Chemical Co.

"LION'S SHARE" OF AMMONIUM NITRATE SALES



Lion E-2 is the only brand that saves 20 to 25% of your storage space. In your warehouse, or on your truck, you can stack *five* bags of Lion E-2 in the same amount of space previously taken up by just *four* bags of any other brand.

You can stack Lion E-2 higher, safer, faster. The bags are specially "frictionized" with Monsanto Syton, the antislip agent that reduces bag damage due to slippage.



FARM SERVICE DATA

EXTENSION SERVICE REPORTS

The Kansas wheat farmer gets his best fertilizer response when the fertilizer is placed with the wheat seed by means of the conventional grain-fertilizer drill.

This is indicated by first year results on precision placement of fertilizer materials carried on in the Kansas agricultural experiment station by Floyd Smith of the Kansas State University agronomy staff.

Three fertilizer materials were used at two different rates of application at four different locations. The unfertilized plots averaged 29 bu. an acre, while the test treatments averaged 37 bu.

Placement of fertilizer 1½ in. to the side and at the same level as the seed was just as good, but no better, than placement with the seed in the conventional manner.

Placement of fertilizer 1½ in. to the side and 2 in. below the seed gave about the same results, except that in a few instances at the heavier rates of application this method fell about 2 bu. an acre short of the top yields.

Inferior results were obtained in all cases where fertilizer was placed 1 in. to the side and 1 in. below the seed level. Yields were 1 to 3 bu. less with this method, than with the combination grain-fertilizer drill.

Mr. Smith said the lower yields seemed to be due to the disturbance of the seedbed at planting time by the machine used to place the fertilizer. Consequently, germination and emergence of wheat seedlings were somewhat less.

Three different fertilizer materials were used in the experiment: triple superphosphate, 15-15-0 mixed fertilizer, and 12-12-12 complete mixed fertilizer. This was applied at two rates, one providing 25 lb. of available phosphoric acid to the acre, the other providing 50 lb. to the acre. Best yields were obtained with the mixed fertilizers at the higher application rate.

Experiments with placement of fertilizer with wheat will be extended this coming year to the Columbus experimental field in southeast Kansas where Mr. Smith hopes that phosphate-deficient soils will allow for greater fertilizer response. The tests also will be continued at three of the locations used this year: at the agronomy and Ashland bottom farms of Kansas State University, both in the vicinity of Manhattan and at the Hutchinson experiment field.

There has been little research on precision placement of fertilizer with Kansas wheat, although another K-State scientist, F. L. Duley, pioneered in this field more than 30 years ago. His investigation in 1926-27 indicated that placing fertilizer with the seed using the combination grain-fertilizer drill was best. Interestingly enough Mr. Duley, who later became a soil conservation leader in Nebraska, tried placing fertilizer in bands both above and below (but not to the side) of the seed. He reported that placements above or below the seed gave yield increases about two thirds as good as with the seed. He found that broadcasting mixed phosphate was only half as good as placing the fertilizer with the seed.

★

Dr. James E. Adams, dean and director, Max C. Fleischmann College of Agriculture, University of Nevada, in a talk at the 13th Annual Nevada Water Conference in Carson City emphasized the relationships between water conservation and research throughout the field of agriculture.

"We are inclined to forget," he said, "that efficiency in the use of water extends beyond the production of plants. Uses for man have priority, but it is not impossible that some day we may have to change and make a choice between some of the conveniences created with water and water for the production of food and feed."

Dr. Adams pointed out that well nourished plants make more efficient use of water than poorly nourished plants—that it requires just as much water to keep an animal that makes slow growth and gains as to maintain a thrifty, healthy, fast growing animal.

In support of the statement he used examples of grass plots and the molybdenum toxicosis research in cattle in this state.

The grass plots were of the same fertility level and received the same amount of water. Production ranged from less than one ton of forage per acre to more than 13 tons. The wide range in production resulted from the manipulation of plant foods available to the grass.

Cattle suffering from molybdenum toxicosis in this state drink just as much water as healthy animals. Yet, the healthy animals gain from 20 to 40 pounds more per month than do the affected cattle.

The speaker reminded the group that through research, the University of Nevada had developed a treatment for cattle eating feed of high molybdenum content. If only one third of the cattle suffering from molybdenum toxicosis were treated, Nevada ranchers would receive an additional $1 million in net income each year.

By inference, Dr. Adams directed attention to the contributions of other factors to water conservation. Among these he included the application of improved technology to agricultural production, the conversion to mechanical power in farming, the increased use of fertilizers, and a number of other research projects that have been completed by the staff of the College of Agriculture.

He called attention to the fact that the difference between the cost of production and the selling price is the profit which the farm family has to spend for family living.

"It behooves us in agricultural research," he concluded, "to strive constantly to widen the margin between the cost of production and selling price in order to allow our ranchers and farmers to remain solvent."

OSCAR & PAT

By AL P. NELSON

When Oscar came home from work that evening, the house was quite dark. In fact, if it weren't for the streetlight nearby, it is doubtful if Oscar could have found the front door.

Puzzled, he tried the doorknob. The door was unlocked, and he entered. From the distant dining room a pale light showed. "Minnie!" Oscar called loudly. "Are you here?"

"Yes, Oscar. In the kitchen."

Oscar was still so puzzled he forgot to take off his seven-year-old mackinaw and his old cap. He walked toward the kitchen and saw two candles burning on the dining room table. In the kitchen there were two more lighted candles. They stood on a wall rack.

"Ach, what's the matter, didt the fuses burn out?" Oscar asked, frowning as he thought of the expense of buying a couple of more fuses.

"Oh, no," Minnie said nervously. "I was cleaning the attic, Oscar, and found these old candles. I—I thought we might as well use them up and save on the light bill."

What could have been the forerunner of a smile, crept over Oscar's round face. "By golly, Minnie, that's the way to do it. Safe a little here, safe a little there andt first thing you know you have an extra dollar to put into the bank. By golly, wait until I tell that Reinhold next time he comes to visit. I bet he neffer thought of that."

All through the meat loaf dinner, Oscar and Minnie ate by candle light. Oscar, reveling in the glory of additional economies, was almost jovial.

"I am gladt I married such a sensible woman, Minnie," he said. "Go right aheadt andt think up some more ideas like that."

This was the mellow moment that Minnie had been waiting for. "Oscar," she asked, "could you take me to the minister's wife's funeral tomorrow—at 2 o'clock?"

Oscar put down his fork and looked at his wife. "Funeral," he said. "Ach, Minnie, you know I work effery afternoon."

"But, Oscar, the minister's wife was a good friend of mine. Lots of other business men will take off to go to the funeral. Why can't you?"

A frown came over Oscar's face. "Let the women go. They can get off. Men can't. Men haf to work."

Minnie looked distressed. "But we are so close to Rev. Halvorsen. What will he think if both of us don't come to his wife's funeral?"

"I don't care much for the way he thinks," replied Oscar. "You mean you are close to him, always runnink over to the parsonage with cookies and things. That Halvorsen is a smoothie. I haf been tellink him to put into his sermons some thinks aboudt people safing money, so the country don't go to hell. But what does he do? He talks aboudt buildink a bigger church, he does. He is not a safer, that Halvorsen. He is a schpendter, just like Pat McGillicuddy. Minnie, I feel sorry for the country with so many schpendters aroundt."

"But—but many of your fertilizer customers will attend the funeral, Oscar. They will see you there. They will like it that you pay respects to the minister."

"Oh, they will, eh? Well, let them respect the bills I send them for fertilizer, and pay them on time. That's the kindt of respect I like."

Minnie sighed. "Well, if you won't go the funeral with me, can I go with Mrs. Peterson?"

"Yah, sure," Oscar said. "Go with her. She's got a car."

Minnie hesitated. "Oscar, could I buy her five gallons of gasoline? She's always taking me places when you can't take me."

"We—ell," grumbled Oscar. "All right—but be sure to get it at the Piston Knock Out Rate Station. They are 5¢ cheaper per gallon."

"Oh, do I have to?" Minnie said nervously. "Last year when you made me buy gas for her there, her car engine missed so much, and then it stopped near Cedarville. Peterson had to pay for a tow truck to come out and haul us in. How would it look if her car started to miss, or stop, in the funeral procession?"

Oscar sniffed. "Well, buy her the high toned gas then. But make it three gallons, not five."

Minnie wrung her hands. "Oh, couldn't you take me to the funeral, Oscar? We never go anywhere together anymore, except shopping on Friday nights."

"I will not take off during working heurs, Minnie. Ach, when they start holdink funerals at night, then maybe I will go with you."

Minnie wept softly.

"Ach," said Oscar irritably. "Don't be like a cry baby. In business you can't be soft, Minnie. In business you sell for a price and that's that. Pat, he visits sick customers in hospitals. He goes to funerals, he sendts cardts and schtuff like that on customers' birthdays. He spendts more time chasink aroundt than he does workink at the schtore. He don't work at our business. He plays at it. Someday—" Oscar broke off meaningfully.

"But people like him," Minnie said tearfully. "They say you are too hard—that you only think of yourself and your pocket book—and—"

"Schtop!" Oscar said sharply. "Ach, you listen to me, Minnie. Haf I ever schtole anything from anybody?"

His wife shook her head.

"Haf I ever cheated a customer?"

"No, they say you give them what they pay for, not an ounce less, nor an ounce more."

Oscar nodded. "And haf I ever lied to a customer?"

"I don't think so. You—you tell them what you think."

"Ach, I do," Oscar said proudly. "People know where I standt. I am honest. I pay my bills. I don't lie to people. I neffer butter anybody up chust to see what I can get oudt of him. I am willink to work hardt for my money, effery day, andt I don't take time off for funerals, for kaffee klatsches, for chambers of commerce meetings. What's wrong with that, Minnie?"

"N—nothing, I suppose," Minnie said tearfully. "But—but it's so different from what most other people do."

"I don't care what it is," Oscar said proudly. "It's me, and I like it."

REPORT ISSUED

UNIVERSITY PARK, N.M.—The 70th annual report of the Agricultural Experiment Station of New Mexico State University has been issued. Its title is "New Mexico Agriculture Advances with Research." The 1958-59 report contains summaries of progress on experiments by members of the Experiment Station and its five substations, numerous photos and figures, and a drawing showing the location of the main stations and the substations.

Have *Your* Customers Tried Spencer 45 UREA?

Here's how to go after a growing new market with this non-leaching, high-nitrogen fertilizer:

You can be sure Spencer 45 Urea is in good condition when you get it and when you sell it. It is guaranteed to stay dry and free-flowing even after a full year's storage under proper conditions. Each round prill is coated to prevent caking, and Spencer 45 Urea is packed in special moisture-proof bags that seal out dampness.

LAST year, well over 100,000 tons of solid urea fertilizer were sold for direct application. And from all indications, 1960 will see dealers selling more of this popular new nitrogen source than ever before. It will pay you to make sure you get your share of this expanding market by stocking Spencer 45 Urea.

Many dealers have discovered that selling Spencer 45 Urea offers attractive profits. They have learned how extremely important it is to show customers the proper basis for comparing the cost of various solid nitrogen fertilizers. The true value to the consumer is not the price per bag, or ton of fertilizer—what really counts is the price of actual nitrogen delivered.

For instance, a ton of a low-analysis (20.5%) nitrogen source delivers 410 pounds of actual nitrogen. A ton of Spencer 45 Urea delivers 900 pounds of actual nitrogen. By comparing the cost of actual nitrogen delivered, you will demonstrate that Spencer 45 Urea costs almost exactly the same per pound of actual nitrogen.

Yet, Spencer 45 Urea gives you all the important extra benefits to offer your customers:

1. Half As Much Material To Handle

Because Spencer 45 Urea has more than twice as much nitrogen grow-power as low-analysis sources, your customers need to lift only half as many bags and make half as many refilling stops in the field. This benefit alone can help you make sales.

2. Special Non-Leaching Qualities

As Spencer 45 Urea dissolves and goes into the ground, it actually attaches itself to soil particles—stays where it's put until the plants use it for nourishment. It's ideal for pre-plant application.

3. Gradual Release Feeds All Season

One shot of Spencer 45 Urea lasts clear through the growing season because this advanced source releases nitrogen evenly as the plants grow. Explain this important advantage to your customers, too.

Just remember that even though Spencer 45 Urea offers these extra benefits it is still new enough that many of the people in your area will have to be introduced to its advantages. Of course, since Spencer is already the favorite brand of nitrogen in many areas, it is a name farmers trust. Then, too, your customers are getting the Spencer 45 Urea story on radio, and in leading farm papers and magazines as Spencer's advertising leadership continues to pave the way to smoother selling for you.

To help you get started after urea profits, Spencer offers several efficient plans for stocking Spencer 45 Urea:

(a) Order a split car using any combination of Spencer "Mr. N" Ammonium Nitrate and Spencer Urea to fill a minimum car.

(b) Send your own truck to any one of Spencer's 15 convenient warehouses offering 45 Urea.

(c) Order fast rail shipments of 15 tons or more.

(d) Spencer will deliver by truck in minimum load quantities.

Next time your mixer salesman is in, ask him about the best way for you to order Spencer 45 Urea (and "Mr. N" too). Choose from three sizes of extra-tough, moisture-proof bags: 50-lb. all plastic bags, and polyethlene-lined paper bags in 80 and 100-lb. sizes. Or get Spencer 45 Urea in bulk at $4 per ton less than 80-lb. bags.

Put in a stock of Spencer 45 Urea right away. Be ready to cash in on your share of this new business, and you will be serving your customers better, too.

SPENCER

"Don't just fertilize... Spencerize"

SPENCER CHEMICAL COMPANY, Kansas City, Missouri

Producer of 4 Nitrogen Spencerizers for hungry crops

OUTSIDE walls at the Green Chemical Co., Winchester, Va., (left photo) carry neat signs advertising some of the lines carried by the store. The right photo shows Elmer H. Lauck, assistant manager, selling a weed spray to a customer.

IN THIS PHOTO, Elmer H. Lauck, assistant manager at the Green Chemical Co., tells a customer about the extensive bulletin service which is available at the store.

VARIED SUPPLY

(Continued from page 9)

about any item he wishes for his fruit operation at this well stocked store and warehouse.

The firm also rents some equipment. Weed sprayers are rented at 25¢ per day, and a $5 deposit. There is no charge for fertilizer spreaders when customers buy materials at the store. Lawn spreaders cost 50¢ rental per day with a $10 deposit. Lawn seed sower rents for 50¢ per day and a $10 deposit.

Due to the fact that fruit growers use so much spray material, they need to keep up with new sprays of all types. Thus, Green Chemical Co. has a special sales material rack in its store. Folders are kept in neat rows, and held in place with wire lines. Customers can't help seeing the sales material and picking it up. Employees usually invite customers to take home folders on new sprays and study them.

"Fruit growers are really anxious to learn about new spray materials," states Mr. Lauck. "They pick folders off this rack quite often."

Mr. Lauck reports that many farmers use 10-6-4 fertilizer on their apples, with 5-10-10 being a popular analysis for peaches. Many growers have about 40 to 50 apple trees to the acre and use 500 lb. of fertilizer to the acre.

Apple trees in this area are fertilized in November through January, with most bulk fertilizing taking place in December and January. Green Chemical Co. has contacts with four custom fertilizer spreader firms who will spread at $3 per acre at the rate of 500 lb.

Fruit growers are offered free soil tests through Green Chemical Co. and the American Agricultural Chemical Co.

Mr. Lauck reports that while various chemical companies furnish well trained technical men for field work, there still remains sometime the task of using language the customer can understand. Sometimes fruit growers call the firm for additional explanations after calls by technical men.

In addition to newspaper and direct mail advertising, this firm also does some sales promotion. One idea tried last year was a key chain promotion. Each customer was given a key chain with a special number. Then the store management drew for a merchandise prize each week and posted the winning number. Many key chain owners came in every week to see if they won a prize. And on their trips to the store, they often purchased more chemicals or other merchandise.

The fruit growers of the area usually meet in February each year for a fruit growers' short course. Green Chemical Co. and other firms support and publicize such a course. In addition, the West Virginia Horticultural Assn. and the Virginia Horticultural Assn. hold meetings in the area. Green Chemical Co. representatives usually attend both conventions. At such meetings there are detailed reports on new materials tested and proved. The annual spray bulletins published by the state are also issued at these winter meetings.

Every business firm can profitably disseminate a little humor now and then as a good will building gesture. Green Chemical Co. has some humorous signs posted near the order desk.

Copy on a few of these signs is:

"Try Our Easy Payment Plan. 100 Per Cent Down and No Monthly Payments."

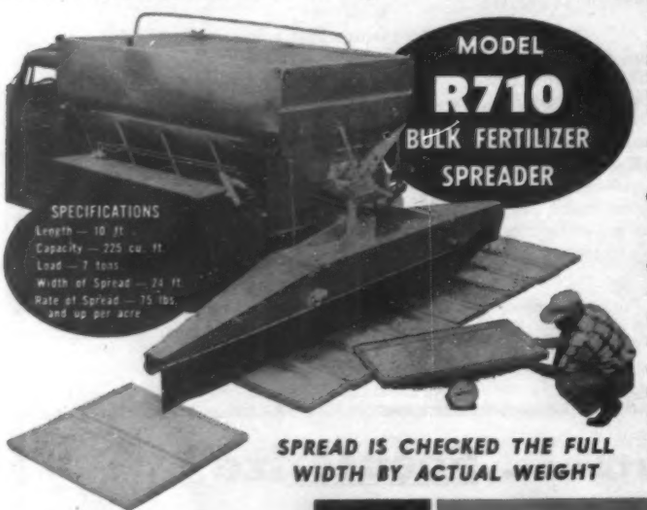
"We Have No Comment on Our Competition Who Sell for Less. They Know What Their Materials Are Worth."

"If I Save Up 320 Coffee Breaks Could I Use Them for a Two Weeks Vacation?"

With its program of extensive stocks and excellent service to customers, Green Chemical Co. expects to increase its business in 1960 beyond the current rate of approximately $800,000 annually.

GIVE YOUR FERTILIZER CUSTOMERS WHAT They WANT

... A GUARANTEED EVEN, ACCURATE SPREAD — FULL WIDTH, NO SKIPS



SPREAD IS CHECKED THE FULL WIDTH BY ACTUAL WEIGHT

The Simonsen spreader is not an adaptation of a lime spreader. It is designed to spread high analysis fertilizers accurately and evenly, down to 75 lbs. per acre. Superb performance results in positive customer satisfaction, and unequalled maintenance-free operation. Leasing plans available.

GET THE TROUBLE-FREE FEATURES YOU WANT

- Non-Corroding stainless steel at all critical points—apron, metering gate and guides, take-up bolts, drive chains.
- All-weather wheel drive assembly.
- Hydraulic fan drive.
- Outside compartment door hinges.
- Simple adjustment for spreading rate.
- Rubber shock absorbers on hoods.

WRITE, WIRE OR PHONE COLLECT for further information about the R710, plus a full line of other Simonsen bulk fertilizer bodies and the new Simonsen Feedilizer (a dual-purpose bulk feed and bulk fertilizer body).

SIMONSEN ALSO MAKES A FULL LINE OF, BULK FEED BODIES, COMBINATION BULK FEED AND SACK BODIES, AND UNLOADERS TO FIT YOUR PRESENT TRUCK BODY.

S SIMONSEN MANUFACTURING CO.
DEPT. CL QUIMBY, IOWA PHONE 72

Reader Views

To the Editor: I certainly enjoyed your editorial—"Industry's Production Know-How Comes to Front in Record 1959 Fertilizer Tonnage," which appeared in Croplife under date of February 15, 1960. I would appreciate your sending me two more copies of the edition.—George C. Van Nostrand, president, North Dakota Nitrogen Co., Bismarck, N.D.

• • • •

To the Editor: May we take this opportunity to congratulate you and your Washington correspondent, Mr. John Cipperly, on his fine article in Croplife, Jan. 11, 1960, covering Secretary Flemming.

This represents an outstanding article on the real reasons behind the cranberry fiasco. Whenever we are asked for our views along this line, we refer to your very fine publication and Mr. Cipperly's article.

More power to you in your good work in the interest of agricultural chemicals.—Roy E. Miller, president, Miller Products Co., Portland, Ore.

• • • •

To the Editor: The editorial in your January 25th issue of Croplife is very good indeed.—Arthur Northwood, Jr., Public Relations Representative, Shell Chemical Corp., New York.

Western Cotton Meeting Stated for March 1-2

BAKERSFIELD, CAL. — The 1960 Western Cotton Production Conference will be held at the Bakersfield Hacienda Motel here, March 1-2, announced John P. Benson, president and general conference chairman, Western Cotton Growers Assn.

Included on the program will be a discussion on "Fertilizing Cotton for Optimum Results," by Dr. Richard B. Bahme, western regional director, National Plant Food Institute.

Other topics to be reviewed are:

"Problems and Progress in Weed Control," by John H. Miller, agronomist, U.S. Department of Agriculture, U.S. Cotton Field Station, Shafter, Cal., and P. J. Lyerly, superintendent, Texas Agricultural Experiment Station, El Paso, Texas.

"Problems and Experiences with Cotton Defoliation," by Audy J. Bell, agronomist, J. G. Boswell Co., Corcoran, Cal.

"1959 Pink Bollworm Control Program in Arizona," by B. C. Rhodes, cotton producer and chairman, pink bollworm committee, Arizona Cotton Growers Assn., Avondale, Ariz.

"Insect Control Problems and Recommendations for 1960," by J. E. Swift, extension entomologist, Berkeley, Cal.; J. N. Roney, extension entomologist, Phoenix, Ariz., and John J. Durkin, extension entomologist, University Park, N.M.

SUPPLIES

(Continued from page 1)

tember, 1958 and September, 1959, in terms of percentages, were as follows:

Material	1959 stocks as a % of 1958 stocks
Aldrin, chlordane, dieldrin, endrin, heptachlor, toxaphene	144
Benzene hexachloride (gamma basis)	54
10-26% gamma grades	48
36% and above, including lindane	62
Calcium arsenate	60
Copper fungicides	83
2,4-D (acid basis; includes producers' formulations)	47
DDT	114
Fumigants (grain and soil; includes mixtures)	121
Lead arsenate	149
Miticides (miscellaneous)	127
Organic phosphorus insecticides ...	65
includes: Methyl parathion	43
Parathion	121
Others	362
2,4,5-T (acid basis; includes producers' formulations)	79
Fungicides (miscellaneous)	115
Insecticides (miscellaneous)	64
Weed killers (miscellaneous organic)	296

NEW HEAD

(Continued from page 1)

will aggressively promote all phases of its program with special emphasis on increasing the use of fertilizer."

Dr. Coleman said that the purpose of the Sulphur Institute was to expand world consumption of sulphur by appraising its benefits to agriculture and industry through research and educational programs.

"Institute studies will relate to the value of both existing and the new uses of sulphur and will be conducted in cooperation with educational, government and other research agencies," he said.

Dr. Coleman, who has held his NPFI post since its formation in 1955, formerly was a director of the Mississippi Agricultural Experiment Stations.

Mr. Truitt, a native of Millersburg, Mo., had previously served for four years as president of the American Plant Food Council which was consolidated with the National Fertilizer Assn. in 1955.

In 1943 he was president of the National Association of Margarine Manufacturers. During his administration of this group, the Federal Margarine Law, imposing taxes and license fees on margarine, as well as numerous state laws prohibiting the sale of yellow margarine, were repealed and the production of margarine reached record highs.

As executive vice president of NPFI, he has been active in traffic matters, especially in fighting freight rate increases which would ultimately result in an increase in the cost of fertilizers to farmers. He instituted a legislative reporting service for members and has worked cooperatively with the Association of American Fertilizer Control Officials on behalf of uniform tonnage reporting for the fertilizer industry and to procure more up-to-date consumption statistics through the fertilizer control officials.

New Crabgrass Killer

MIDLAND, MICH. — The Dow Chemical Co. is launching a limited test market program for their new crabgrass control product. Marketing will be conducted in a few cities of the central and eastern states, primarily to evaluate consumer acceptance and marketing methods, according to J. H. Prine, market manager for lawn and garden products.

Dow Crabgrass Killer contains Zytron, a new non-arsenical compound discovered by Dow. The initial test marketing program is being made with a granular product recommended for spring, pre-emergence application, according to Mr. Prine.

Why you'll sell more Grace Urea Prills This Spring

Its versatility and superiority help increase your volume and profits

You can recommend Grace Urea Prills for all crops, wherever a nitrogen fertilizer is needed.

In the spring, for example, these free-flowing, leach-resistant prills are ideal for preplant application. That's because they speed decomposition of stubble or plant residues being turned under.

And, of course, your customers can use Grace Urea Prills profitably for:

- √ Sidedressing or topdressing
- √ Foliar application
- √ Application in irrigation water
- √ Spring fertilization of pastures

You help your customers as well as yourself when you promote the increased use of Grace Urea Prills. They offer your farmers 4½ pounds of nitrogen for each ten pounds applied—the most nitrogen per pound in solid form... *guaranteed* 45%.

To build up the nitrogen content in *liquid* fertilizers, use either Agricultural Grade Grace Crystal Urea or Grace Urea Prills. Both dissolve readily, *stay* dissolved.

Grace Chemical Company

A DIVISION OF W. R. GRACE & CO.

MEMPHIS, TENN.

A WORLD OF EXPERIENCE

Fertilizer Suggestions, Soil Testing Techniques Discussed at Conference

URBANA, ILL. — Farm outlook, new soil testing and fertilizer recommendations, reports on limiting factors in corn yields, and other recent research findings highlighted the 1960 Illinois Fertilizer Industry Conference in Champaign-Urbana on Feb. 4.

More than 250 fertilizer manufacturers and their representatives attended the one-day program sponsored by the University of Illinois department of agronomy, cooperating with the Illinois Fertilizer Industry Assn. and The National Plant Food Institute.

L. H. Simerl, University of Illinois agricultural economist, reported that Illinois farmers' incomes vary depending on the commodities they produce and local weather conditions. He stated that Illinois farmers' incomes depend largely upon price trends for cattle and hogs and yields of corn, soybeans, and wheat.

James C. Laverty, University of Illinois assistant professor of soils extension, recommended that Illinois soil testing laboratories change the method of determining soil phosphorus by using the photelometer already present in their laboratory. When this change is made it will easily be possible to make the P_1 soil test as well as the P_2 test now used.

This suggested change in the phosphorus test would result in measuring the immediate phosphorus needs of the soil. From the new test, farmers can get recommendations for applying soluble phosphate on a specific crop.

Mr. Laverty also stated that it would be highly desirable for soil testing laboratories to change their method of determining lime requirement and also to do more research to relate pH to the lime requirement of individual soils.

Charles Y. Arnold, University of Illinois associate professor of horticulture, stated that any fertilizer recommendations for vegetable crops must consider the wide range of phosphorus and potassium fertility levels in soils. He reported that experiments on tomatoes, pumpkins, sweet corn and other crops indicated that P_1 and K tests reflect the fertility status of the soil and the potential response to various amounts of phosphorus and potassium fertilizer with a satisfactory degree of accuracy where rock phosphate has not been applied. Fertility needs of vegetable crops vary significantly however, he stated.

Mr. Arnold also stated that maintaining a pH from 6.5 to 7.0 for vegetable crops is desirable. There is considerable interest in the finer grades of limestone among vegetable growers. Illinois vegetable crops research workers have developed tables for estimating fertility requirements for vegetable crops and converting these needs into mixed fertilizer recommendations. The precision implied in the calibration of soil tests to fertilizer response described for vegetable crops sets a challenging goal for field crops.

S. R. Aldrich, professor of soils, extension, reported that Illinois applies more fertilizer in bulk, individual materials, bulk blends, mixed fertilizer, and rock phosphate than any other state.

During the first six months of 1959, mixed fertilizer sales for the state totaled 465,080 tons compared to 387,563 for the same period a year earlier. Sales of nitrogen materials added up to 149,920 tons compared to 116,427 for the first six months of 1958. Soluble phosphate material sales of 57,543 declined slightly from 58,496 tons a year earlier.

Rock and colloidal phosphate sales dropped to 202,958 tons during the first half of 1959 compared to 207,974 the first half of 1958. Potash materials totaled 64,634 compared to 65,039 in 1958.

Mr. Aldrich reported that research was started in 1959 to study the variability of application rate across the spreader swath. Another study was begun on the variability in the pattern of applying the three fertilizer components, nitrogen, phosphorus, and potassium. This is to stimulate incomplete blending or segregation of the blend in loading, transit, or spreading.

The oats experiment was so severely affected with disease that no results were obtained. In corn trials, yields were not high enough to place major stress on fertilizer distribution pattern. Yields were about 90 bu. an acre and there did not appear to be any reduction in yield for uneven fertilizer distribution. More extensive trials are planned on corn and oats in 1960. A wheat trial began this past fall.

A major feature for the day's conference was a panel of University of Illinois research workers discussing limiting factors in corn production.

Doyle B. Peters declared that corn is very sensitive to water deficits in terms of growth in height. But little "definitive evidence" is available regarding relation between grain yield and water deficits. He concluded that water may frequently limit corn yield even though serious deficiencies rarely occur.

C. E. Fulcher reported that the average number of inches of available water in the root zone of the subsoil during the period seven days before to ten days after silking gave the best correlation of grain yields with available moisture.

R. H. Hageman reported that most plants absorb nitrogen in the form of nitrates but that these must be reduced to ammonium ions and then combined with sugars to form amino acids and protein. Certain strains of corn have higher levels of nitrate reductase activity and protein content due to their genetic make-up, he reported. This appears to be one explanation of the reason that certain corn hybrids can stand thicker planting than others. The self-shading that results is tolerated better by certain germ plasm.

E. H. Tyner pointed out that soil productivity is determined primarily by net water availability and fertility. Of various nutrients usually applied to the soil, only nitrogen must be applied in relation to the net water that characterizes various soil types, he pointed out.

A. L. Lang reported that corn and soybean yields are consistently higher when they follow non-cultivated crops like small grain or meadow. In seasons when all production factors are most favorable for high yields, differences due to cropping sequences are frequently negligible, he pointed out. But in seasons with unfavorable conditions, yields may widely differ for different cropping sequences.

Mr. Lang emphasized that poor management such as poor cropping systems, inadequate lime, bad drainage, lack of weed control, no insect

Books on Soils and Soil Management

SOILS AND FERTILIZERS—Fourth Edition

Firman E. Bear

Covers in detail: soil chemicals, important soil elements such as nitrogen, phosphorus, calcium; yield prospects of crop plants, moisture control, soil management; mechanical operations; soil conservation; organic matter maintenance. New facts, accurate figures. 66 illustrations, 420 pages $6.00

SOIL FERTILITY (1955)

C. E. Millar, Professor Emeritus of Soil Science, Michigan State College

A fundamental treatment of the principles of fertility in the soil, with major emphasis on the plant itself. Relevant aspects of soil chemistry, soil physics, soil microbiology and plant physiology from viewpoint of their influence on plant growth. Each major plant food element and the more important micro-nutrients fully treated with respect to supply in the soil, sources and amounts of additions, losses from the soil, functions in plant growth and plant symptoms of deficiency. Covers all sections, with considerable space to saline soils and soils of southern latitudes $6.75

CHEMISTRY OF THE SOIL (1955)

Firman E. Bear

Presents a comprehensive picture of the chemical aspects of soils in relation to their development, present constitution and the uses to which they are put. Covers: chemical composition, soil, colloids, organic matter relationships, oxidation-reduction phenomena, acid, alkaline and saline soils, plant nutrition, nutrient fixation, trace element chemistry, root and soil relationships. Scientists engaged in soil research will find useful data directly applicable to their investigations. Food chemists, manufacturers and those manufacturing liming materials, fertilizers, soil conditioners, surfactants, wetting agents, insecticides, fungicides and other agricultural chemicals will gain new ideas for future product research and development. 384 pages $8.75

SOIL PHYSICS—Third Edition (1956)

Dr. L. D. Baver, Director Experiment Station, Hawaiian Sugar Planters Association

This represents a considerable revision of the earlier versions and incorporates many ideas communicated to the author by soil scientists all over the world. Two new chapters on the principles of soil irrigation and drainage, discussion on soil puddlability, effect of chemical soil conditions on soil structure, and recent contributions of the diffusion process in soil aeration, and information on hydraulic conductivity, soil moisture stress and plant growth, the importance of compaction on soil tillage, and wind erosion processes. 489 pages $7.75

SOILS AND SOIL MANAGEMENT

A. F. Gustafson

A complete study of soils; physical properties, soil, organism, organic matter, relation of water, control of water, tillage, erosion, acidity and its control by liming, management of alkali soils, nitrogen and its importance to the farmer, production, conservation and utilization of farm manures, production and utilization of green manure crops; fertilizer materials and their effects on soils; crop rotations; fertilization and long-term maintenance of productivity of mineral soils. Published 1941. 424 pages, illustrated $6.50

SOIL SCIENCE SIMPLIFIED

Helmut Kohnke

A concise textbook dealing with basic concepts of soils. Much useful information for students in agriculture, farmers, fertilizer salesmen, etc. 68 pages, paper bound $1.00

IRRIGATED SOILS: Their Fertility and Management—New 1954—Second Edition

D. W. Thorne and H. B. Peterson, Department of Agronomy, Utah State Agricultural College. Dr. Thorne is also Chief of Soils and Fertilizer Research Branch, Tennessee Valley Authority

An outstanding text dealing with the problems of irrigated regions. In addition to the chapters dealing with irrigation, the salt problem, reclamation of saline and alkali soils, there are chapters on maintaining organic matter in soil, minerals and plant growth, fertilizer elements and fertilizer materials, using fertilizers, soil management for general field crops, for fruit, vegetable and specialty crops... $7.00

THE RESPONSE OF CROPS AND SOILS TO FERTILIZERS AND MANURES (1954)

W. B. Andrews

A new book, with special reference to Anhydrous Ammonia and other sources of nitrogen in liquid form. Deals also with legumes as a source of soil nitrogen, and the uncertainty of green manures; the response of soil to phosphorus, potash and soda; the effect of fertilizers on yield and feeding value of hay and pasture crops. 468 pages, 19 chapters, 89 illustrations $6.00

CHEMICALS, HUMUS AND THE SOIL

Donald P. Hopkins

The theme of the book is the necessity of chemical fertilizers to maintain the fertility of the soil. It has concise information on which soil conditions and which chemical fertilizers are most suited for special crops and vegetables. Space is devoted to cereal crops, barley, wheat, oats and rye; to roots and tubers, sugar beets, potatoes, carrots, parsnips and turnips; to vegetable crops, beans, peas, alfalfa, lupines; to grasses and clovers; to onions, flax, kale, cabbages, lettuce, tomatoes, celery, cauliflower and fruits. It clarifies the relationship of manures, compost and chemicals as fertilizers and points out how chemicals should be used to obtain the best results. Its philosophical soundness and logic should do much to avert the confusion of thought introduced by the advocates of compost and manure as against the use of chemical fertilizers..... $8.50

Order From Croplife

Reader Service Department
P.O. Box 67
Minneapolis 40, Minn.

(enclose remittance)

control, an unadapted crop variety, over-population for the production potential, or root pruning by cultivation cannot be overcome with fertilizer.

He stated that fertilizer dealers could render great service to see that their product has every chance of succeeding, even under the most trying seasonal stresses. In Mr. Lang's opinion, seed or fertilizer will have a better chance to perform well when used where cultivated crops are alternated with non-cultivated crops than when grown continuously.

A. L. Hooker, University of Illinois plant pathologist, asserted that losses from disease depend upon the disease, the hybrid, and stage of plant development when the disease develops. In Illinois, stalk rots may reduce yields as much as 30% according to 1958 and 1959 surveys, he reported. Leaf diseases can cut yields as much as 50% when they strike a plant two to three weeks after silking.

AT ILLINOIS CONFERENCE—Fertilizer industry representatives met with agronomists at the Illinois Fertilizer Conference held at Urbana early in February. Top picture shows Werner L. Nelson, American Potash Institute, Lafayette, Ind., and Zenas H. Beers, Midwest director of the National Plant Food Institute, Chicago, talking with M. B. Russell (right) head of the department of agronomy, University of Illinois.

Middle photo, left to right: J. F. Taggart, E. I. duPont de Nemours & Co., Inc., Danville, Ill.; S. R. Aldrich, University of Illinois agronomist and conference chairman, and H. H. Tucker, Sohio Chemical Co., Lima, Ohio. In the lower photo are officers of the Illinois Fertilizer Industry Assn. Left to right, H. L. Stangel, Darling & Co., East St. Louis, Ill., treasurer; J. R. Abbot, Ashkum Fertilizer Co., Ashkum, Ill., vice chairman; R. B. Nethery, Federal Chemical Co., Danville, secretary, and R. A. Weis, Virginia-Carolina Chemical Co., East St. Louis, chairman.

F. J. Stevenson, associate professor of soil biology, stated that loss of nitrogen may occur from soils in several ways, but loss by bacterial denitrification requires urgent additional study. An important goal is to obtain information that will permit more specific recommendations of nitrogen fertilizer to the wide range of Illinois soils.

E. H. Tyner reported that depth of nitrogen leaching is strongly affected by soil texture. He pointed out that nitrate nitrogen is dispersed over broad bands during the course of its transport through soils and this dispersion could reduce the seriousness of expected leaching losses.

L. T. Kurtz, professor of soil fertility, reported that good increases in soybean yields from phosphorus and potassium have been obtained on soils that were extremely low in fertility. On the very low phosphorus soils, additions of 33 lb. P_2O_5 boosted soybean yields from 24.6 to 30 bu. an acre. But little increase in yield was obtained when the P_2 test was above 30 lb.

S. W. Melsted, professor of soils, reported that manganese deficiencies in soybeans and oats have increased in recent years. The soils involved are always neutral or alkaline and usually tend to be wet or have poor drainage in early spring.

No satisfactory soil test for manganese is available to determine where deficiencies may occur. However, fertilizer trials involving spray applications of 10 to 20 lb. manganese sulfate an acre have been made. The responses for soybeans have varied from zero to 12 bu. an acre, he reported. When deficiencies do occur, Mr. Melsted suggested spraying on 10 to 20 lb. manganese sulfate treatment in a concentration of no more than one pound in 5 gal. water. Soil applications, after the crop is established, are usually not effective.

Following the dinner hour, Dean Louis B. Howard of the University of Illinois College of Agriculture, welcomed conference visitors. Zenas H. Beers, midwest director of the National Plant Food Institute, introduced M. B. Russell, head of the University of Illinois department of agronomy, as speaker of the evening.

Mr. Russell stated that the overall purpose of research is to understand. He compared the research worker as one going down a long corridor opening doors. Some doors open into false closets. But other doors open into large rooms. Other research workers then come along to provide furnishings for these rooms.

Mr. Russell emphasized that industry, trade associations and private business will become even more important in the future in helping implement research and in evaluating the findings. University experiment stations and extension workers cannot do the job alone, he declared.

Discussing research problems and opportunities, he said that to understand fertility behavior, we must understand the behavior of the whole plant system.

He pointed out that if we could improve efficiency by which water is used by plants, we could, in effect, move the Great Plains 500 miles east. Knowing more about the operations of the root system would open new opportunities for influencing plant growth and development.

The research in agronomic sciences in the future will be concerned with dynamics of the system, Mr. Russell predicted. We can't think any longer in terms of amounts of nutrients. We must also think in terms of rates of supplying them, he asserted.

There are many opportunities ahead in which teams of scientists may be required to work out solutions. But the individual research worker will still be important. The individual with an idea is still our most valued asset, he concluded.

The Illinois Fertilizer Industry Assn. held its first annual meeting at the close of the conference.

Officers for the coming year will be:

R. A. Weis, Virginia-Carolina Chemical Co., E. St. Louis, president; John Abbot, Ashkum Fertilizer Co., Ashkum, vice president; R. B. Nethery, Federal Chemical Co., Danville, secretary; and H. L. Stangel, Darling and Co., E. St. Louis, treasurer.

PUBLIC RELATIONS

(Continued from page 3)

to provide food for so many. Unfortunately farmers, now a small minority group, have not got their true story to the urban, non-farm population. Doing that, in my judgment, is a major responsibility which agricultural extension workers must share with agricultural scientists, teachers, farmers and friends of agriculture generally."

Frankly, too much emphasis cannot be placed on the observations of Dean Weber. We must all share the responsibility of telling the farmer's story but . . . having an earnest desire to help tell agriculture's story is not enough. There are facts to be assembled and we must not be guilty of talking to ourselves. However, at the risk of being contradictory, we, ourselves, must be informed before we can tell the story of agriculture to others. Getting the facts is not an easy job, but they are available . . . in the U.S. Department of Agriculture . . . in the land-grant colleges . . . and in our great farm organizations.

Facts like these . . . paraded by one of the great Midwestern farm paper editors and I quote: "First, we should not discount the importance of farming to the nation just because we have no worries about food or because farmers presumably are always caught in price troubles. Per capita income on farms is about half the income of non-farm employment. This is disparity. A way to change it must be found.

"Agriculture is the biggest buyer . . . seller . . . and borrower in the U.S.

"The inventory of farm machinery alone is greater than the assets of the American steel industry and five times that of the automobile industry.

"Each year farmers purchase farm supplies worth about $16 billion. The agricultural plant each year increases its use of capital, of science and technology, of management and research.

"In its dilemma—agriculture requires the understanding of the urban population. In fact, it also demands greater understanding from farmers themselves. Agriculture is involved in vast changes—declining farm population, the increase in the size of farms and mechanization. The changes bring problems of adaptation of technology, of staggering surpluses and increased costs. The complex situation perplexes the experts."

And now if you'll pardon a cliche—"Gold is where you find it." I found a wealth of sound judgment and information in a talk recently delivered by Dr. L. L. Rummell, dean of the College of Agriculture, Ohio State University. He was talking on "Communication in Public Relations" at a meeting of the American Association of Land-Grant Colleges and State Universities, a little over a year ago.

He said that communication aspects of public relations in land-grant colleges include two kinds of problems, namely: (1) Public understanding, recognition and support of agricultural research and education, and (2) means to bring scientific and educational knowledge of the institutions before the public. He emphasized that both functions merit attention of top administrative authority in the institutions, and here I would include agricultural industries

and others having a concern for the welfare of farming.

Here is a potent statement from his address: "In an age of jets, satellites and atomic power, we in agricultural education and research still depend too much upon concepts and agencies of communication characteristic of the horse age." He further states that: "Public relations is part of the life-stream of industry. It gets executive attention. Coupled with market research and sales promotion, it keeps the public reasonably dissatisfied with new models of automobiles, and thus we (or our wives) wish for a new car each year. It tests our reaction to air travel, soap or toothpaste, our ideas on chain stores and supermarkets, big business and labor unions, political candidates—and shapes our thinking accordingly. Yet we who teach the ingredients of public relations—with one of the greatest products (research and education) in all the world to merchandise—have failed to communicate adequately with the public.

"That's harsh — unjustified — you say?

"With all our mass communication media — bulletins, extension, field days, fairs, films, farm press, news releases, radio and TV—still many of our farmers think agricultural research is done by the feed or machinery company, or by extension, and one out of five does not even venture a guess as to who does it."

While the agricultural colleges themselves, must share a large part of the responsibility for telling the farmer's story, we, in industries wherein farmers are our customers, also have a responsibility. The least we can do is to give agricultural leaders, agricultural workers, and agricultural affiliates the facts which they can use advantageously to bring the contribution of farmers in focus.

JOINT MEETING

(Continued from page 1)

taken from Guernsey County farms during the campaign, or twice as many as have normally been taken in an entire year," Dr. Shoemaker and Mr. Share said.

Soil sampling was the foundation of the program, which was designed to increase crop production efficiency by the use of lime and fertilizer and other good management practices.

As a preparation for the program, a series of three fertilizer dealer short courses were held in the county to train dealers in taking soil samples and interpreting soil sample results after testing. Dealers who completed the course were presented with certificates indicating they were qualified to serve as soil fertility consultants to farmers.

A special section of the local newspaper, special radio programs, and slide sets were obtained and 37 soil collection stations were set up. NPFI then furnished 88 soil probes, 1,000 copies of "How to Take a Soil Sample" and a goal of 500 soil samples was set.

"A final survey has not yet been completed on how the program has increased the use of lime and fertilizer on country farms," said Dr. Shoemaker, "but one lime dealer said he sold more lime during two program months than he had spread in the entire preceding year."

Following the Guernsey County presentation Harry Cook, Farm Bureau Cooperative Assn., Inc., Columbus, Ohio, spoke of the importance of the research to the fertilizer industry. He said, "This type of program is very valuable to the industry and will result in increased tonnage. This is the pay off, this may be the way we stay in business."

Miami County, Ohio, was another county to participate in an intensified fertilizer demonstration program.

According to Dr. Gordon Ryder, Ohio State University extension agronomist and Norman Arnold, Miami County extension agent, farmers who cooperated in the program got back $2 for every dollar invested in fertilizing pasture, despite a drouthy 1959 season and a 9 in. shortage in rainfall.

Individual increases in hay yields as high as 2,100 lb. an acre were reported on some farms. The average increase in yield was 1,235 lb. an acre, the two men reported. All of the demonstration plots received higher fertilizer applications than did neighboring check plots.

Fifty-seven farmers cooperated in the project, which was aided by a NPFI grant. There were 10 pasture fertilizing tests and 47 corn fertilizing demonstrations.

Dr. Ryder pointed out that the demonstration program was unique in these respects:

1. Cooperating farmers bought their own fertilizer.
2. Through the cooperation of 18 fertilizer companies doing business in the county, 23 salesmen served as demonstration supervisors.
3. 95% of the demonstrations were completed as planned.

Mr. Arnold said, "The attitude of the farmer cooperators is indicated by the fact that more than 75% of them have agreed to repeat the same demonstration program in 1960, and several of the farmers have already applied the fertilizer for this year's meadow pasture demonstrations."

Commenting on the significance of the Miami County demonstration to the fertilizer industry was H. H. Tucker, Sohio Chemical Co., Lima, Ohio.

"As I see it," he said, "the project is important because of its educational values, its industry relations values and of its sales value which culminate in actual sales increases.

"This type of program will probably do more in less time than anything else which could be done to shorten the span of time which it takes for recommendations to be accepted and put into practice. The possibilities are really unlimited if we continue to use the ingenuity and whole-hearted cooperation which was so evident throughout the program."

Dr. J. F. Davis, Michigan State University soils specialist, discussed research progress in Michigan. He said band placement of fertilizer has boosted small grain yields as much as 15 bu. an acre.

In yield-building tests in Saginaw County, he continued, 600 lb. per acre of a fertilizer supplying nitrogen, phosphate and potash was applied in a band to the side and 1 in. below seed level.

"This method puts the nutrients within easy reach of the roots of

Use the proven XYLENE-BASE Diluent with Dependable Uniformity!

ESPESOL 5

Proved by Formulators Everywhere as

AN ECONOMICAL, NON-PHYTOTOXIC DILUENT!

ESPESOL 5 PROVIDES:

- Constant weight (pounds per gallon)
- Uniform flash point
- Consistent aromatic content
- Narrow boiling range

More and more formulators are using non-phytotoxic Espesol 5 because it is an economical water-white, Xylene-base diluent that possesses absolute uniformity. Offer *your* customers a premium product by using this premium quality, high specification diluent in your formulations.

Of advantage to formulators with multi-plant locations is the fact that specifications for Espesol 5 are identical at all Eastern States terminals—no need for changes in your formulations. Available in drum, transport, tank car, barge and ship tank lots. Mail coupon for complete information.

Eastern States Petroleum & Chemical Corporation

Eastern States Petroleum and Chemical Corporation
P. O. Box 5008 Dept. CL 2-230
Houston 12, Texas
Please send additional information on Espesol 5.

Name_____
Title_____
Company_____
Address_____
City_____ Zone____ State_____

Post Office Box 5008—Houston 12, Texas—Phone WAlnut 3-1651
Chicago Office: 1011 Lake St., Oak Park, Illinois, Phone Village 8-5410
New York Office: 10 Rockefeller Plaza, New York, Phone Circle 7-2520
Cleveland Office: 20800 Center Ridge Rd., Cleveland, Ohio, Phone EDison 3-0188
Louisville Office: 4th and Broadway St., Louisville, Ky., Phone JUniper 3-7634
Atlanta Office: 3121 Maple Drive, N.E., Phone CEdar 3-3227
Los Angeles Office: 110 S. Euclid, Pasadena, Phone RYan 1-0278

U. S. Terminals:
Houston, Texas • Chicago, Illinois • East Liverpool, Ohio
Madison, Indiana • Brownsville, Texas • Savannah, Georgia
Carteret, New Jersey • Los Angeles, California

young seedlings," Dr. Davis said. "It has the advantage of keeping the plant food from direct contact with the seed. Contact applications of fertilizer can cause serious damage in germination and cut down yields."

Talking about sugar beets, Dr. Davis said that early growth can be increased threefold by adequate fertilization. The fertilizer gets the young plants off to a faster, more vigorous start, facilitates the job of blocking and cuts down the competition of weeds.

He noted that profitable applications of up to 800 lb. of superphosphate with row applications of 150 lb. of 5-20-20 fertilizer per acre have been made in Michigan tests. Michigan farmers are applying an average of 587 lb. fertilizer to their sugar beet crops.

Dr. Davis also said research scientists are studying soil nutrient levels in cooperation with agricultural economists with the idea of "maximizing profits from fertilizer use." This may enable agronomists and farm economists to make better predictions of probable results.

A. H. Bowers, Swift & Co., Chicago, then discussed this research and pointed out its importance to the fertilizer industry.

An Indiana soils scientist, Dr. Stanley A. Barber of the Purdue University agronomy staff, reported that rates of fertilizer application have increased an average of 50 lb. an acre in the past ten years. He said farmers are now using an average of 185 lb. of fertilizer per cultivated acre, compared to 135 lb. a decade ago.

"At the same time, the fertilizer industry has been able to increase the plant food content of the fertilizer from an average of 26 units to an average of 40 units. This combination makes a 120% increase in the per acre use of nutrients in Indiana during the past 10 years," he said.

Summarizing the results of more than 75,000 soil samples sent to the Purdue Soil Testing Laboratory, Dr. Barber felt the tests were "reliable indicators of the phosphate and potash availability on most Indiana soils."

He noted that research on methods of applying phosphate fertilizer indicated that where more than 40 lb. an acre was being applied, it was better to plow under most of the amount and use a small amount in the row, than to use it all as a row application.

Experiments over a three-year period indicate that potash can be applied either in the row or plowed under for corn with equal effectiveness, he said.

Discussing land subject to erosion, he said the use of a rotation which included hay crops gave a 5 to 10% increase in corn yields over those obtained under continuous cropping to corn.

"The average yield for continuous corn over a six-year period was 114 bu. an acre, whereas the average yield for first year corn in a rotation was 123 bu.," he said. "These results would indicate that it is possible to maximize corn production on non-erosive soils if this should be desirable."

Loren R. Johnson of U.S. Steel Corp., relating the Indiana work to the industry said, "The findings as reported by Dr. Barber should make everyone selling fertilizer in Indiana very optimistic about the future market potential for fertilizer there."

He then noted that although relative amounts varied, there was a need for all major plant nutrients in every section of the state. To meet the present recommendations, he said, there is a need for an additional 100,000 tons of nitrogen, about 40,000 tons of phosphate and over 80,000 tons of potash annually.

"If we will continue to use or adapt the tools that are now and will be provided for us by Purdue research programs, our future goals can be easily attained," Mr. Johnson concluded.

"Nitrogen does a better crop feeding job when the soil is well supplied with phosphate and potash fertilizer," was a statement made by Dr. C. M. Woodruff, University of Missouri soil scientist, while summarizing research progress in Missouri.

Dr. Woodruff cited tests where Sudan grass was used as the yardstick for measuring the recovery by crops of nitrogen added to the soil.

"The percentage of added nitrogen recovered by Sudan grass ranged from as much as 48% where the past 70 years of cropping had included full treatment with chemical fertilizer, to only 12% on land that had been cropped to different systems without soil treatments," he said.

Dr. Woodruff reported that band placement of 50 lb. of P_2O_5, the equivalent of about 100 lb. of superphosphate, was more effective in increasing yield than 800 lb. of superphosphate broadcast and mixed with the soil on land very deficient in phosphate. Banded phosphates were more effective for corn when accompanied by small amounts of nitrogen in the fertilizer band, he said.

In some of the tests the soil had received fertilizer applications supplying 100 lb. of nitrogen and 100 lb. potash an acre, broadcast and plowed down before corn planting time.

"Fast growing annual plants like corn require high concentrations of phosphate in the soil solution during their early stages of development," he said. "As they approach maturity, much lower concentrations are sufficient.

"Thus broadcast applications of phosphate, unless used annually in appreciable amounts, fail to provide the high concentrations of phosphate that are desirable for young corn plants."

He stated that tests indicated that the phosphate requirements of corn growing in soils very low in phosphate can be met by banding 50 lb. of P_2O_5 near the seed at planting time, provided the phosphate is accompanied by small amounts of nitrogen in the ammonium form.

Dr. Woodruff also noted that at one time it was suspected that chloride accompanying potassium in fertilizer might be less desirable than carbonate or sulfate for the growth of corn.

"Investigations on this subject were started in 1953 and terminated in 1959, however," he said, "and it was found that the chloride form of potassium was not inferior to either the carbonate or sulfate form of potassium as a fertilizer for corn."

Commenting later on this was Victor Sheldon, Olin Mathieson Corp., St. Louis.

He said, "It is indeed reassuring to know that we can use muriate of potash in the manufacture of mixed fertilizer with the full confidence that corn farmers can obtain equal or superior response than from a product made from more expensive potash sources.

"In view of the fact that these studies apply to band as well as broadcast applications of potash, we can manufacture complete fertilizers to supply at least maintenance amounts in the fertilizer band."

Dr. F. E. Shubeck, South Dakota Agricultural College agronomist, in talking about research in South Dakota, concluded that irrigation plus adequate fertilization can boost corn yields as much as 50 to 65 bu. an acre.

He reported that fertilizer recommendations for irrigated land advise the use of three times as much nitrogen and about twice as much phosphate as for dry lands, on soils well supplied with potash.

"About 107,000 acres of South Dakota farm land are now under irrigation," Dr. Shubeck said, "and there may be 700,000 in the future depending on how farmers vote in potential irrigation districts."

Three-year field trials indicate that the state's soils are well supplied with potash.

Small grains gave good yield responses to nitrogen fertilizer in tests with tillage, fertilizer and rotations in south central South Dakota, according to Dr. Shubeck.

"The effect of 30 lb. of nitrogen an acre on small grains compared favorably with yield increases due to legumes in the rotation, when the small grain test crop was the second crop after the legume," he said.

Discussing tests with continuous corn, he said that even though drouth and high temperatures set a ceiling on corn yields in 1959, an increase of about 15 bu. an acre was obtained on fertilized continuous corn plots.

W. M. Mierke, Tennessee Corp., St. Louis, reported on the importance of the South Dakota research to the fertilizer industry.

"There are changes taking place in South Dakota that are affecting fertilizer usages," he said. "There are four areas of influence that are changing:

"1. The natural fertility level is lower now.

"2. The thinking of the farmer is changing. No longer does he think his soil is indestructible.

"3. The influence of the coming irrigation in the state will have an impact on fertilizer usage.

"4. Research is pointing out new ideas to farmers."

He added that there is much data from the colleges that can be used if given an economic interpretation to motivate farmers to invest in fertilizer. If this is done and research and education continue at least as forcibly as in the past, fertilizer sales will jump tonnagewise in South Dakota.

Rounding out the two-day meeting was a summary on the "Potential of the Fertilizer Dealer" given by Dr. Joseph M. Bohlen and Dr. George M. Beal, Iowa State University rural sociologists.

One of the main points brought out by the two in their flannel-board demonstration was that survey results in Iowa show the fertilizer dealer playing a key role in influencing farmers' decisions about fertilizer use. The survey covered some 315 farmers who work 40 or more acres each and 118 fertilizer dealers.

The two also felt that there is a tremendous potential for increased fertilizer use. "The industry not only has a stake, but an opportunity and responsibility to help increase fertilizer use up to an 'optimum' level," they said. **(A more complete report on the Iowa survey will appear in Croplife next week.)**

Making brief appearances at the meeting were C. J. Chapman, soils department, University of Wisconsin, and Emil Truog, who is the congress manager for the coming International Soil Science Congress to be held at the University of Wisconsin in August.

Mr. Chapman informed the extension element present of the availability of papers on the 1959 results of various demonstrations in Wisconsin.

Mr. Truog reminded the group of the coming soils congress and urged interested persons to donate to the congress fund.

Zenas H. Beers, NPFI Midwest regional director, and Raul Allstetter, NPFI vice president, concluded the meeting with a plea to those in attendance to take heed of the lessons learned at the meeting.

NEW OFFICERS of the South Carolina Pest Control Assn. elected at the annual convention at Clemson recently include: left to right, Thomas Knox of Columbia, director; Don Proffitt of Spartanburg, secretary-treasurer, and George Mathews of Columbia, director. Not present were Reeves Gressette of Orangeburg, president, and Don Sims of Greenville, vice president.

Pest Control Group To Seek Statewide Regulation Legislation

CLEMSON, S.C.—The South Carolina Pest Control Assn. has voted to seek legislation which would regulate the pest control industry on a statewide basis.

During discussion of the proposed bill to be submitted to the State Legislature, it was pointed out that some individual county bills were passed last year. The decision to ask for statewide legislation came during the business meeting at the third annual Pest Control Operators' School held here recently.

The operators also left the school determined to develop a program to educate the public in matters of selecting an exterminating expert. A man should be considered for this service on the same basis as other professional men are chosen for their services, many operators said during the open discussion.

Reeves Gressette of Orangeburg was elected president of the state association for the next year. He succeeds E. M. Delk of Charleston. Other new officers are Donald Sims of Greenville, vice president; Don Proffitt of Spartanburg, secretary-treasurer, and Tom Knox of Columbia and George Mathews of Columbia, directors.

Topics discussed at the two-day meeting included:

"Control of Mosquitoes," Dr. T. R. Adkins, assistant entomologist, South Carolina Experiment Station; "Control of Birds and Squirrels in House," Dr. L. G. Webb, leader, Clemson Wildlife Research Project; "Spider Control," Dr. J. K. Reed, entomologist; "Control of Ants," L. M. Sparks, Clemson Extension entomologist; "Recent Developments in Research on Termite Control," R. J. Kowal, chief, Division of Forest Insect Research, Southeastern Forest Experiment Station, Asheville, N.C.

J. O. Rowell, Virginia extension entomologist, conducted a pest control quiz and Dr. R. C. Fox, F. H. Smith, T. E. Skelton and W. C. Nettles of Clemson conducted pest recognition exercises.

Croplife

A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL INDUSTRY

The regional circulation of this issue is concentrated in the Southern states.

Inflexible Provisions of 'Cancer Clause' May Stifle Development of New Materials

PANIC REACTIONS to any substance or compound which under laboratory conditions may be made to induce cancerous growth can lead to conclusions both foolish and ridiculous. Mention "cancer" to many people and they will tend to shudder . . . but tell them that something they eat, drink, or contact may cause the disease, and one invites a demand that "something be done about it."

Just how far-fetched are some of these fears was brought out in recent testimony presented before a Congressional committee by Dr. Thomas P. Carney of Eli Lilly & Co. who said that foods such as milk, eggs, sugar, tea and cocoa have been made to cause cancer under special circumstances in laboratory animals. The obvious question is, should we stop drinking milk and eating eggs and partaking of any other of a number of nutritious foods simply because they contain, in extremely minute quantities, chemicals that might be harmful to man?

Dr. Carney said that if everything that has been made to cause cancer in laboratory animals were eliminated from use, life would be virtually impossible. He noted that not only foods, but sunlight and clothing fabrics can be made to cause cancer under laboratory conditions. Such an observation from a competent scientist carries a ring of authority and should serve to underline the far-reaching effects of the so-called "cancer clause," or Delaney amendment to the Food and Drug Act.

The inflexible provisions of the Delaney amendment prevent the use of many substances which are safe and highly beneficial to mankind. Not the least of these considerations is the possibility of stifling development of new chemical products to improve agricultural production.

Appropriate to the above thoughts, and carrying the matter a little further, are some observations made in a recent talk by Robert Z. Rollins, chief of the California bureau of chemistry. Discussing state and federal registration of herbicides, Mr. Rollins outlined some of the obvious hazards accompanying the use of weed control chemicals, but emphasized that such calculated risks are based on actual knowledge of the chemical's toxic properties with nothing left to guesswork.

In the case of herbicides with a zero tolerance, he said, it makes "quite a difference in how small a trace is considered. During the past few years, there have been demands for greater and greater sensitivity of analytical methods and for assurances that push the frontier of zero residue lower and lower.

The California chemist declared further that: "We are demanding more information about these chemicals than we have about the foods and feeds themselves."

"We know much more about the pharmacology of aminotriazole, DDT, parathion, and many of the modern pesticides than we do about pepper, mustard, coffee, and most of the common foods that we have eaten for centuries. It seems quite possible that a number of the spices, condiments, and even some of our common foods would not pass the microscopic scrutiny of safety which modern pesticides must meet. No product that we use, not even foods and not even drugs are more thoroughly tested than pest control chemicals.

"This is not presented as a reproach to the modern 'Inquisition of Chemicals' but to emphasize the complexity of the problems that must be solved in marketing and using an herbicide. Perhaps the biggest problem of all is deciding how far down toward zero we must go in our search for purity."

Setting of zero tolerances leaves a considerable amount of uncertainty, Mr. Rollins declared. As an example of what he meant, he said that on the herbicide IPC no tolerance has been set for possible residues in linseed meal, a feeding stuff, or on flaxseed, sometimes used as a tea.

"Let us suppose IPC were applied to flax and an analytical chemist analyzed the seed carefully. Of course, if he found any trace at all, the use would not be acceptable until and unless an appropriate tolerance were established to permit that amount of residue in that particular crop. But suppose the analytical chemist does not find any. Perhaps he can say with confidence that the crop does not contain as much as 0.5 ppm, not as much as 0.1 ppm, or perhaps not as much as 0.01 ppm if his method is that sensitive, but he could never say that it contained 'none'. Until this can be said, use of IPC on flax will remain in question and no one can recommend it or use it in complete confidence.

"This uncertainty will continue until usages are abandoned or a tolerance is established for every herbicide, as well as for every other pesticide, that is used in any manner that might remotely contaminate a food or feed."

"If developments in analytical chemistry later on permit a greater sensitivity, a new level or the new analytical method should be established at which time all the accepted uses of that particular chemical would have to be re-examined by the new method to re-establish their acceptability."

Farmer's Share of Food Dollar Not Large

THERE IS ALWAYS an area of misunderstanding about how much of the consumer's food dollar goes to the farmer. Urban dwellers, of whom there are more all the time, tend strongly to regard the food producer as a sort of rural profiteer who is directly responsible for food costs. They could hardly be more wrong on both counts.

The average American family spends from 21% to 35% of their disposable income (what's left after taxes are paid) for food, according to government statistics. This is a smaller share of income for food than was spent before World War II, and what's more, they get better food now than they did then. Actually, the same kinds and amounts of foods that were purchased 20 years ago for 23% of disposable income would now require only 16%. No other people in the world get so much for so little.

The farmer's share of the food dollar has ranged around 40% for the past four years or so. Recently it has dropped about 1%. Back in 1946, due to a rapid inflationary situation, the farmer's share rose to 52%, but this didn't last long.

Back in 1932 and 1933, worst years of the depression, his income went down to only 32% of the food dollar. Again, happily, it didn't stay at that low point.

According to agricultural economists at the University of Illinois who recently published figures on the subject, the farmer's share of the consumer's food dollar is likely to hold near or slightly below 40% until a major recession or strong inflation causes it to move up or down more drastically.

Croplife's Home Office

Croplife®

Member of Business Publications Audit — *Member of National Business Publications*

CROPLIFE is a controlled circulation journal published weekly. Weekly distribution of each issue is made to the fertilizer manufacturers, pesticide formulators and basic chemical manufacturers. In addition, the dealer-distributor-farm adviser segment of the agricultural chemical industry is covered on a regional (crop area) basis with a mailing schedule which covers consecutively, one each week, three geographic regions (South, Midwest and West) of the U.S. On the fourth week, production personnel in fertilizer manufacturing and pesticide formulating plants throughout the U.S. are covered in depth. To those not eligible for this controlled distribution, Croplife's subscription rate is $5 for one year ($8 a year outside the U.S.). Single copy price 25¢.

Lawrence A. Long, Editor
Donald Neth, Managing Editor

EDITORIAL STAFF — John Cipperly, Washington Correspondent; George E. Swarbreck, Canadian and Overseas Editor; James L. Engfer, Editorial Assistant.

ADVERTISING STAFF—Wilfred E. Lingren, Advertising Director; Carl R. Vetter, Advertising Department Manager; Bruce A. Kirkpatrick, Advertising Production Manager; Jerome C. Whiting, Assistant Advertising Production Manager; R. Dale Swenson, Promotion Manager; James S. Barden, Marketing and Research Director.

BUSINESS STAFF—Milton B. Kihlstrum, President and Treasurer; Wilfred E. Lingren, Executive Vice President; Don E. Rogers, Vice President; Paul L. Dittemore, Vice President; Donald Neth, Secretary; Harry M. Dunn, Jr., Circulation Fulfillment Manager; James G. Pattridge, Assistant Treasurer; Richard Ostlund, Office Manager; Walter O. Buchkosky, Production Superintendent.

BRANCH OFFICES

EASTERN STATES—Paul L. Dittemore, Manager; Archy S. Booker, Jr., and James W. Miller, Advertising Sales Representatives; Suite 3214, 551 Fifth Ave., New York 17, N.Y. (Tel. Murray Hill 2-2185).

CENTRAL STATES—Don E. Rogers, Manager; Amos W. Standish and Robert M. Harrison, Advertising Sales Representatives; 2832 Board of Trade Bldg., 141 W. Jackson Blvd., Chicago 4, Ill. (Tel. Harrison 7-0515).

SOUTHWEST—Martin E. Newell, Manager; Thomas E. Letch, Assistant Manager; 612 Board of Trade Bldg., Kansas City 5, Mo. (Tel. Victor 2-1350).

NORTHWEST—Paul A. Anderson, Advertising Sales Representative, P.O. Box 67, Minneapolis 40, Minn. (Tel. Franklin 4-5200).

WASHINGTON CORRESPONDENT — John Cipperly, 604 Hibbs Bldg., Washington, D. C. (Tel. Republic 7-8534).

WESTERN STATES—Frank J. Wenter, Frank Wenter & Co., Suite 9A, 11681 San Vicent Blvd., Los Angeles 49, Cal. (GRanite 7-6850); William Healy, Frank Wenter & Co., Western Merchandise Mart, San Francisco 3, Cal. (KLondike 2-2311).

EXECUTIVE AND EDITORIAL OFFICES — 2501 Wayzata Blvd., Minneapolis, Minn. Tel. Franklin 4-5200. Bell System Teletype Service at Minneapolis (MP 179), Kansas City (KC 295), Chicago (CG 340), New York (NY 1-2452), Washington, D.C. (WA 82).

Published by
THE MILLER PUBLISHING CO.
2501 Wayzata Blvd., Minneapolis, Minn.
(Address Mail to P. O. Box 67, Minneapolis 40, Minn.)

Associated Publications—The Northwestern Miller, The American Baker, Farm Store Merchandising, Feedstuffs, Milling Production, Feedlot, Professional Nursing Home

MEETING MEMOS

Aug. 15-23 — Seventh International Soil Science Congress, University of Wisconsin, Madison, Wis., Prof. Emil Truog, Congress Manager, Soils Building, College of Agriculture, Madison 6, Wis.

Aug. 25-27—Mississippi Soil Fertility and Plant Food Council, 1960 meeting, Buena Vista Hotel, Biloxi, Miss.

Meeting Memos listed above are being listed in this department this week for the first time.

Feb. 23-25—Weed Society of America meeting, in conjunction with Western Weed Conference, Cosmopolitan Hotel, Denver, Colo.

Feb. 23-24—Ninth annual Pesticide Chemicals School, Clemson House, Clemson College, Clemson, S.C.

March 2-6—Annual Southern Safety Conference, Robert Meyer Hotel and George Washington Hotel, Jacksonville, Fla.

March 22-23—Western Agricultural Chemicals Assn., spring meeting, Miramar Hotel, Santa Barbara, Cal.

March 23-25—North Central Branch, Entomological Society of America, Schroeder Hotel, Milwaukee, Wis.

March 30-31—Twenty-fourth annual meeting, Georgia Entomological Society, New Science Center, University of Georgia, Athens, Ga.

April 11-12—Eighth annual California Fertilizer Assn. Conference, sponsored by CFA Soil Improvement Committee, Fresno State College, Fresno, Cal.

June 12-15—National Plant Food Institute annual meeting, Greenbrier Hotel, White Sulphur Springs, W. Va.

June 21-22—Eighteenth Annual Convention, Association of Southern Feed & Fertilizer Control Officials, Riverside Hotel, Gatlinburg, Tenn. For further information, write Maurice B. Rowe, secretary-treasurer, Department of Agriculture, 1110 State Office Building, Richmond 19, Va.

June 27-29—Pacific Branch, Entomological Society of America, Davenport Hotel, Spokane, Wash.

July 13-15—Eleventh Annual Fertilizer Conference of the Pacific Northwest, Hotel Utah, Salt Lake City; B. R. Bertramsen, State College of Washington, Pullman, Wash., chairman.

July 27-29—Great Plains Agricultural Council, 1960 meeting, Laramie, Wyo.

July 27-30—Southwest Fertilizer Conference and Grade Hearing, Galvez Hotel, Galveston, Texas.

Sept. 29-30—Northeast Fertilizer Conference, Hotel Hershey, Hershey, Pa.

Oct. 5-6—Southeast Fertilizer Conference, Atlanta Biltmore Hotel, Atlanta, Ga.

Oct. 17-21—48th annual National Safety Congress, Fertilizer Section, LaSalle Hotel, Chicago.

Nov. 13-15—California Fertilizer Assn., 37th annual meeting, del Coronado Hotel, Coronado, Cal.

BRUSH AND WEED KILLERS

KILL BRUSH at low cost with amazing 8-H BRUSH RHAP. Will not injure grasses, grains; not poisonous. For free information write Reasor-Hill Corporation, Box 36CL, Jacksonville, Ark.

KILL SUBMERSED WATER WEEDS which foul up motor propellers, tangle fishing gear, with 8-H WEED RHAP-20, Granular 2,4-D. Inexpensive, easy to use, sure results. For free information write Reasor-Hill Corporation, Box 36CL, Jacksonville, Ark.

MR. CORN FARMER: Control broad leaved weeds and grasses (crab grass, fox tails) with 8-H WEED RHAP-20, Granular 2,4-D. For free information write Reasor-Hill Corporation, Box 36CL, Jacksonville, Ark.

REMEMBER TO ORDER

CHASE BAGS

There's None Better!

CALENDAR FOR 1959-60

FEBRUARY

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29				

MARCH

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

APRIL

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

MAY

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

JUNE

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

JULY

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

AUGUST

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

SEPTEMBER

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

OCTOBER

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

NOVEMBER

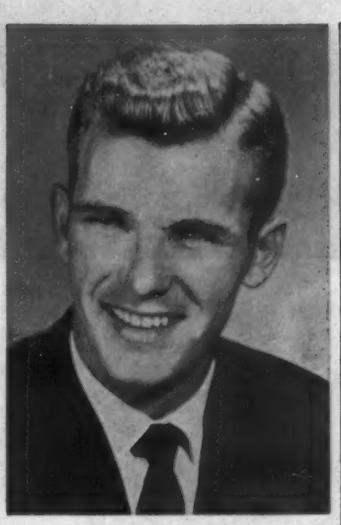
S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

DECEMBER

S	M	T	W	T	F	S
			1	2	3	
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

JANUARY

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				



Thomas Collins

SALES REPRESENTATIVE—Thomas Collins has recently joined Bradley & Baker's Atlanta office as a fertilizer sales representative. A resident of Tampa, Mr. Collins will call on and service manufacturers in Florida.

Bemis Announces New Appointments

ST. LOUIS, MO.—K. Stewart McCord, assistant to the director of paper procurement, Bemis Bro. Bag Co., has been appointed to the newly-created position of inventory administrator at the company's Boston offices. Mr. McCord will report directly to the vice presidentand director of procurement and materials.

Mr. McCord will be succeeded in his former post by Richard F. Allen, laboratory supervisor in the Bemis paper control laboratory, Boston. H. E. Earthal, a Bemis engineer at the company's engineering research laboratory in St. Louis, will transfer to the Boston paper control laboratory as supervisor.

Mr. McCord joined Bemis as a cost accountant at the St. Louis engineering department in 1946. He was transferred to Boston to become assistant to the director of paper procurement in 1950.

Mr. Allen joined Bemis in 1955 following research and executive positions with the Robert Gair Co. and the Hollingsworth & Whitney Division, Scott Paper Co.

Mr. Earthal started with Bemis in 1956 as a laboratory technician in the company's engineering research laboratory, St. Louis.

RECORD EARNINGS

LOS ANGELES — United States Borax & Chemical Corp. registered record sales and a 33% increase in earnings for the three months ended Dec. 31, 1959, it was noted in the company's first-quarter report to shareholders. James M. Gerstley, president, said net income after federal income taxes amounted to $1,456,909, equivalent after preferred dividend requirements to 31¢ per share on the 4,188,615 shares of common stock outstanding. This compares with net income of $1,093,248 for the first three months of the previous year, equivalent to 22¢ per share on the 4,186,325 shares outstanding on Dec. 31, 1958.

Classified Ads

Classified advertisements accepted until Tuesday each week for the issue of the following Monday.

Rates: 15¢ per word; minimum charge $2.25. Situations wanted, 10¢ a word; $1.50 minimum. Count six words of signature, whether for direct reply or keyed care this office. If advertisement is keyed, care of this office, 20¢ per insertion additional charged for forwarding replies. Commercial advertising not accepted in classified advertising department. Display advertising accepted for insertion at minimum rate of $11 per column inch.

All Want Ads cash with order.

BUSINESS OPPORTUNITIES

DISTRIBUTORSHIPS AVAILABLE FOR Best 4 brand agricultural chemicals and herbicides. Price, quality and controlled distribution can be yours. Time Chemical Corp., 5321 Dahlia Street, Denver 16, Colo.

DISTRIBUTORS—SOME DESIRABLE TERRitories now open for highly-profitable Arrow Brand finely-ground rock phosphate—the leader in its field. You will be backed by advertising and complete sales and promotion program. Write Dept. C, Robin Jones Phosphate Company (Est. 1902), Nashville, Tennessee.

SITUATIONS WANTED

AGRONOMIST, M.S. TROPICAL AGRONomy - agricultural chemistry. Experience in Europe and S. E. Asia (agricultural chemicals). Outstanding references. Age 30. Knowledge of Dutch, German, French. Available immediately. Address Ad No. 5660, Croplife, Minneapolis 40, Minn.

NEED ALL-AROUND KNOW-HOW?

Nearly twenty years' solid experience in agriculture, thirteen in agricultural chemicals, balance in seed industry and state experiment station. Positions have included those of Development Manager, Sales Manager, Product Manager (present) and Vice President - Sales. Seeking a challenging marketing position preferably with a smaller but aggressive organization. Married; 41 years old; two children; B.S. Entomology, University of Connecticut; M.S. Plant Pathology, Virginia Polytechnic Institute; American Management Association marketing courses. Reply Ad No. 5661, Croplife, Minneapolis 40, Minn.

INDEX OF ADVERTISERS

The index of advertisers is provided as a service to readers and advertisers. The publisher does not assume any liability for errors or omissions.

Allied Chemical Corp., Nitrogen Div. ...
American Potash & Chemical Corp. .....
American Potash Institute .....
Armour Agricultural Chemical Co. .....
Ashcraft-Wilkinson Co. .....

Baker, H. J., & Bro. .....
Broyhill Company, The .....
Bemis Bro. Bag Co. .....

Chantland Mfg. Co. .....
Chase Bag Co. 23
Chemagro Corp. .....
Coddington, E. D., Mfg. Co. .....
Collier Carbon & Chemical Corp. .....
Commercial Solvents Corp. 8

Davison Chemical Co. .....
Deere, John, & Co. .....
Dempster Mill Mfg. 11
Diamond Alkali Co. .....
Dorsey Trailer .....
E. I. du Pont de Nemours & Co., Inc. ....
Duval Sulphur & Potash Co. .....

Eastern States Petroleum & Chem. Corp... 20

Fipps, Inc. .....

Gaddis Bros. Mfg. Co. .....
Gandy Co. .....
Grace Chemical Co. 17
Grand River Chemical Div. of Deere & Co.

Hahn, Inc. .....
Harshaw Chemical Co. .....
Hercules Powder Co. 24
Highway Equipment Co. .....
Hough, Frank G., Co. .....

International Minerals & Chemical Corp. 6, 7
Iowa State Fertilizer Institute .....

Kent, Percy, Bag Co. .....
Kraft Bag Corp. .....

Mackwin Co., The .....
Meredith Publishing Co. .....
Meyer, Wilson & Geo., & Co. .....
Mid-South Chemical Corp. .....
Mid-States Machinery Co. .....
Miller Chem. & Fert. Corp. .....
Miller Publishing Co. .....
Monsanto Chemical Co. 4, 5, 12, 13

Naugatuck Chemical Div., U.S. Rubber Co.
Niagara Chemical Division .....
Northwest Nitro-Chemicals, Ltd. .....

Olin Mathieson Chemical Corp. .....

Penick, S. B., & Co. .....
Pennsalt of Washington Division, Pennsalt Chemicals Corp. .....
Phillips Chemical Co., a subsidiary of Phillips Petroleum Co. .....
Potash Company of America .....
Power Curve Conveyor .....
Progressive Farmer .....

Reasor-Hill Corp. 23
Rivardale Chemical Co. .....

Sackett, A. J., & Sons .....
Simonsen Mfg. Co. 16
Sinclair Chemicals, Inc. .....
Smith-Douglass Co., Inc. .....
Smith-Rowland Co., Inc. .....
Sohio Chemical Co. .....
Southern Nitrogen Co. .....
Southwest Potash Corp. .....
Spencer Chemical Co. 15
Spraying Systems Co. .....
Standard Oil Co. .....
Staeffer Chemical .....
Successful Farming .....
Swift & Co. .....

Tennessee Corp. .....
Texas Gulf Sulphur Co. .....

Union Bag-Camp Paper Corp. .....
U. S. Borax & Chem. Corp. .....
U.S. Phosphoric Products Division .....
U.S. Potash Co. .....
U.S. Rubber Co., Naugatuck Chemical Div.

Wendnagel & Co. .....
Wilco Chemical Co. .....

(Discussing promising new insecticide compounds at Hercules' Agricultural Chemicals Laboratory are: George Buntin, discoverer of toxaphene; Dr. E. N. Woodbury, laboratory supervisor; Dr. Keith D. Ihde, research entomologist; Dr. Arthur D. Lohr, supervisor, Naval Stores research; and Dr. William R. Diveley, a discoverer of Delnav.)

Hercules Research:

KEY TO TOXAPHENE'S OUTSTANDING RECORD OF SERVICE

Toxaphene has had a remarkable history. In a fast-moving industry this versatile insecticide maintains its leadership after more than 12 years of service to agriculture. New uses are being found for toxaphene each year as it continues its dynamic growth.

Continuous research is carried on by Hercules Powder Company to find new chemicals for agriculture, and to find better ways to utilize the tools now available. Many of the people doing this work were engaged in the original development of toxaphene. Besides laboratory research, Hercules has placed great emphasis upon field testing and large-scale demonstrations. From such applied research in cotton insect control, for example, has come information to help farmers get better yields while lowering their production costs.

TOXAPHENE

Agricultural Chemicals Division, Naval Stores Department
HERCULES POWDER COMPANY
INCORPORATED
Wilmington, Delaware

NX60-1